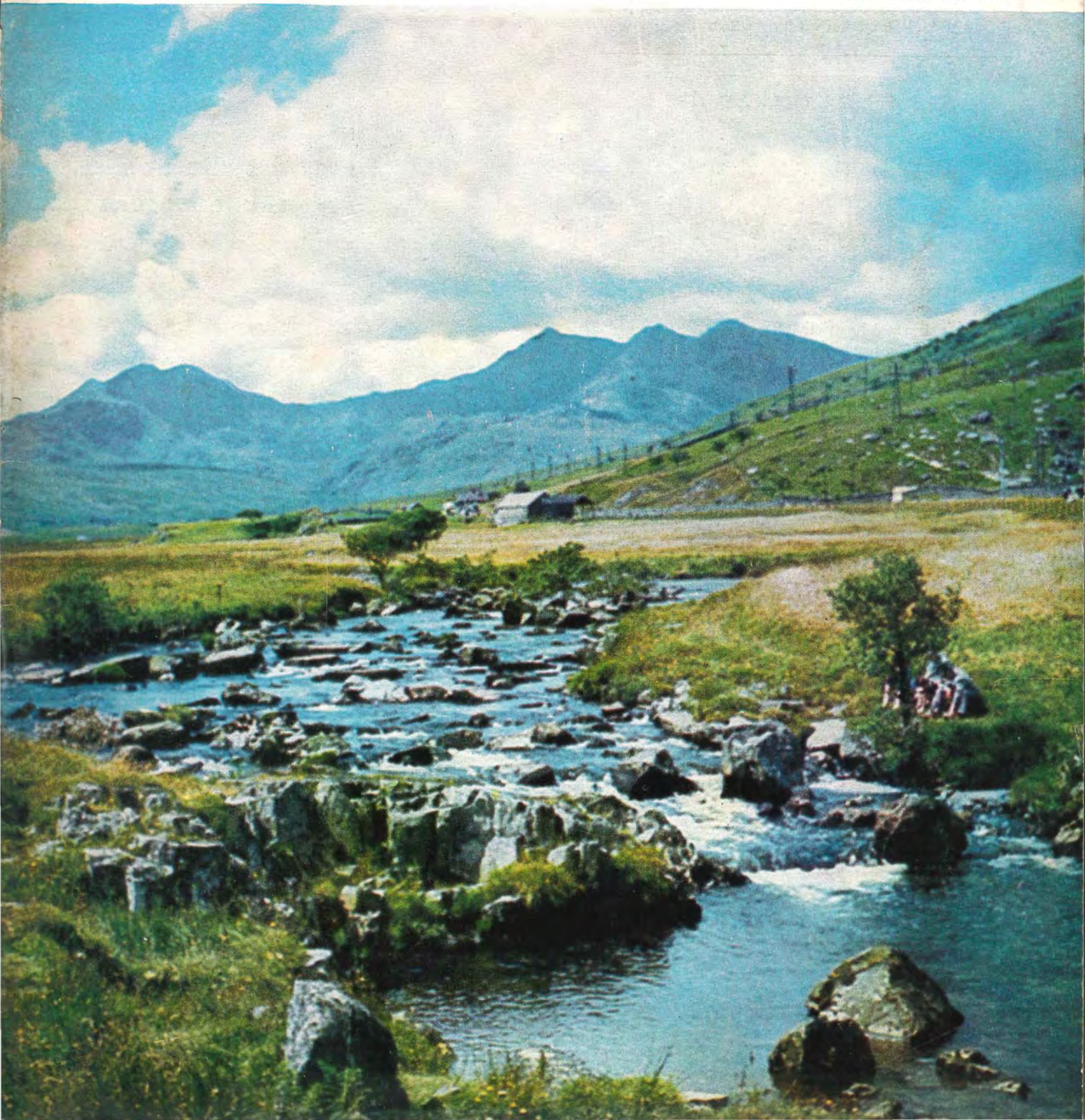




MAGAZINE

PRICE TWOPENCE

SEPTEMBER 1959



The *I.C.I. Magazine* is published for the interest of all who work in I.C.I., and its contents are contributed largely by people in I.C.I. It is edited by Sir Richard Keane, Bt., and printed at The Kynoch Press, Birmingham, and is published every month by Imperial Chemical Industries Limited, Imperial Chemical House, Millbank, London, S.W.1. Phone: VICTORIA 4444. The editor is glad to consider articles for publication, and payment will be made for those accepted.

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John Toker is an incentive bonus clerk at the Wallerscote Works of I.C.I. Alkali Division, where he has been employed for almost ten years. During the war he served with the Royal Navy and two years was spent in the Pacific. His interests are short story writing and judo, but he is very modest about his achievements.

The British Chemical Industry

By Sir Alexander Fleck

How does the post-war progress of the British chemical industry compare with that of the United States, where five times our output is achieved with only twice the labour force? Sir Alexander here puts Britain's efforts in perspective in its world setting, and concludes that we have not done too badly.

IN the course of a recent address in New York to the American Section of the Society of Chemical Industry, Sir Alexander Fleck, Chairman of I.C.I., said:

From 1950 onwards the annual output of the American chemical industry has been about five times as large as that of the British, and the indices of chemical production for the two countries have both risen by an average of over 5% a year. This is in marked contrast to the preceding decade, when the American growth rate outstripped the British; if anything, the reverse is true of the current decade.

Though the United States achieves an output of chemicals five times that of the United Kingdom, they employ at present only about twice as many people as we do. The reason is not far to seek: it is the amount of fixed capital investment behind each employee. Over the past nine years their capital expenditure per employee has been nearly three times ours.

In relation to gross national product, capital expenditure on chemicals since 1950 has been appreciably higher in Britain than in America, in spite of a high bank rate and strict control of capital issues, and for the last three years it has exceeded the £100 million level. Altogether the British chemical industry has spent roughly 2½ thousand million dollars since 1950

on new plant and equipment. We have also invested large sums in research and development, and although different definitions make it difficult to get comparable figures, the proportion of our income that we use in this way probably compares quite favourably with that of the United States.

I felt it worth while to make these comparisons between American and British chemical industry in order to show you that although we are smaller, and therefore cannot hope to match the United States stride for stride, our relative rate of progress shows up pretty well.

In looking at British chemical industry in its world setting it is important to consider world trade in chemicals. As much as 21% of our chemical sales is made overseas, and in some sections, such as dyestuffs and plastics, the proportion is more than 30%. There are some fields, such as industrial explosives, in which Britain is the leading exporter. In most classes of product, however, we take second or third place.

American chemical industry, on the other hand, exports only 6% of its total chemical output, but even so its share of world chemical exports, at some 29%, is still substantially larger than that of any other country, and just under twice the size of the United

Kingdom's share. Nevertheless, although there have been ups and downs, between 1950 and 1957 British chemical exports nearly doubled in value. We naturally welcome this significant contribution to our balance-of-payments problem, but we do not allow it to obscure from our minds the fact that, in line with the general trend of United Kingdom exports of all manufactures, our relative share of world export markets in chemicals has in the last few years decreased, while that of the United States has remained roughly constant.

Attraction of Common Market

In this context the setting up of the European Economic Community, and the failure of the attempt to create a single market embracing the whole of Western Europe, has particular relevance, and you may wonder what effect this has on us. When the idea of a European Free Trade Area was first mooted, the British chemical industry gave it full support. It did so for the reason that it offered an opportunity to serve a compact, highly industrialised market with relatively high purchasing power and consisting of some 250 million people. In short, it offered a market comparable to that of the largest, richest and most sophisticated buying public in the world—the United States domestic market.

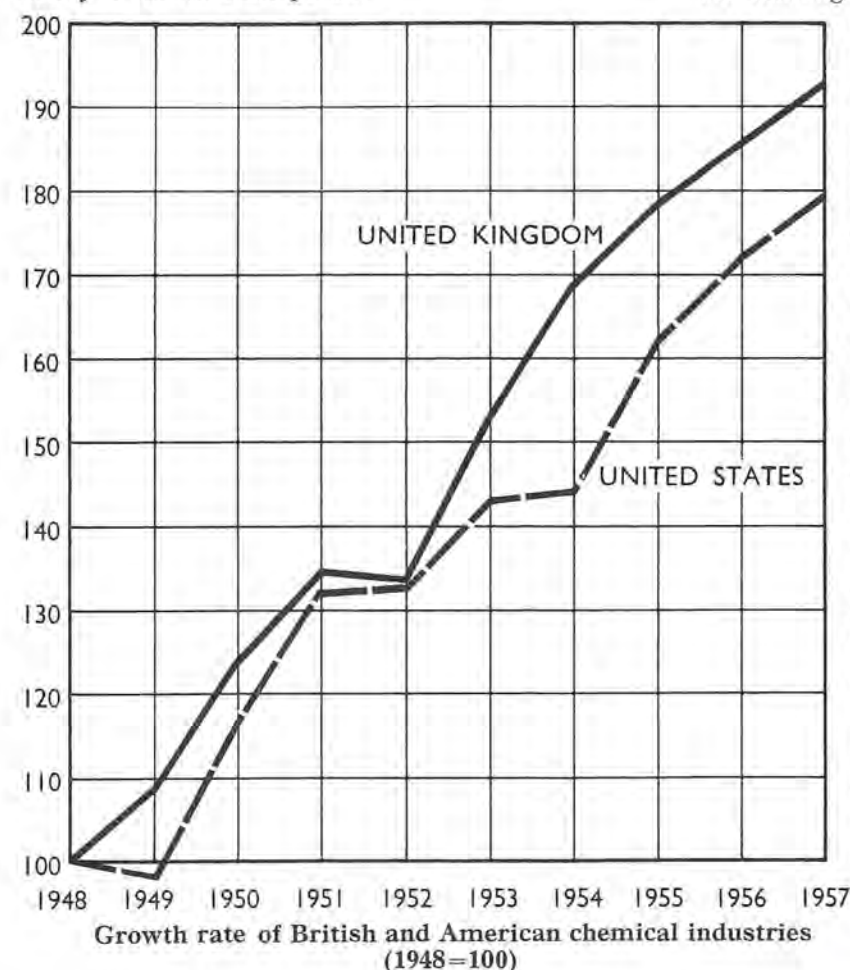
A Blow to our Interests

Of course we had no illusions about the stiff competition that such a market would entail, but we were confident that on balance British chemical industry, and indeed British industry as a whole, would reap very substantial benefits. The economic argument for supporting the Free Trade Area was incontrovertible. But the associated political argument seemed no less strong. The trend towards a liberalised trade, with its consequent easing of national tensions, is in the long run the free world's safest bulwark against the menace of world communism. A move, therefore, in the direction of more restricted trading is inevitably a blow, it seems to me, at the long-term interests of all the free nations.

That the concept of a European free trade area has not materialised is therefore a serious disappointment, and we must hope that wiser counsels will allow some mutually satisfactory form of co-operation to be found. At present the European Economic Community countries take only a sixth of the United Kingdom's chemical exports compared with nearly a

half for the sterling area, but as a chemical market the sterling area is expanding at a much slower rate than western Europe and slower than the world market as a whole.

The slower expansion of markets in the less-developed countries, and the consequent need to try to stimulate demand, is one reason (though by no means the most important) for investing large amounts of capital in them, as both British and American companies have done. Although our main interests lie in the older Commonwealth countries, more and more chemicals are being manufactured in the newly independent countries of Asia. For example, I.C.I., in partnership with the Indian Government, has recently begun to make 5000 tons a year of blasting explosives and safety fuse at Gomia in Bihar. We have also built, and are now bringing on stream, a polyethylene plant near Calcutta, where we already have a factory for making caustic soda, chlorine and other products. Natural resources in West Pakistan are being exploited in a soda ash plant, and in Malaya we are building a factory to manufacture paints.



But the point I wish to emphasise is that in the past this development of overseas manufacture has not meant a loss of business to ourselves as an exporting country. Quite the contrary: before the war, in Australia, for example, our Company's turnover consisted of 75% imports from I.C.I. and 25% its own manufacture. Now the proportions are reversed, but the present 25% of imports from I.C.I. in Britain is several times the value of the pre-war 75%.

Obligation Overseas

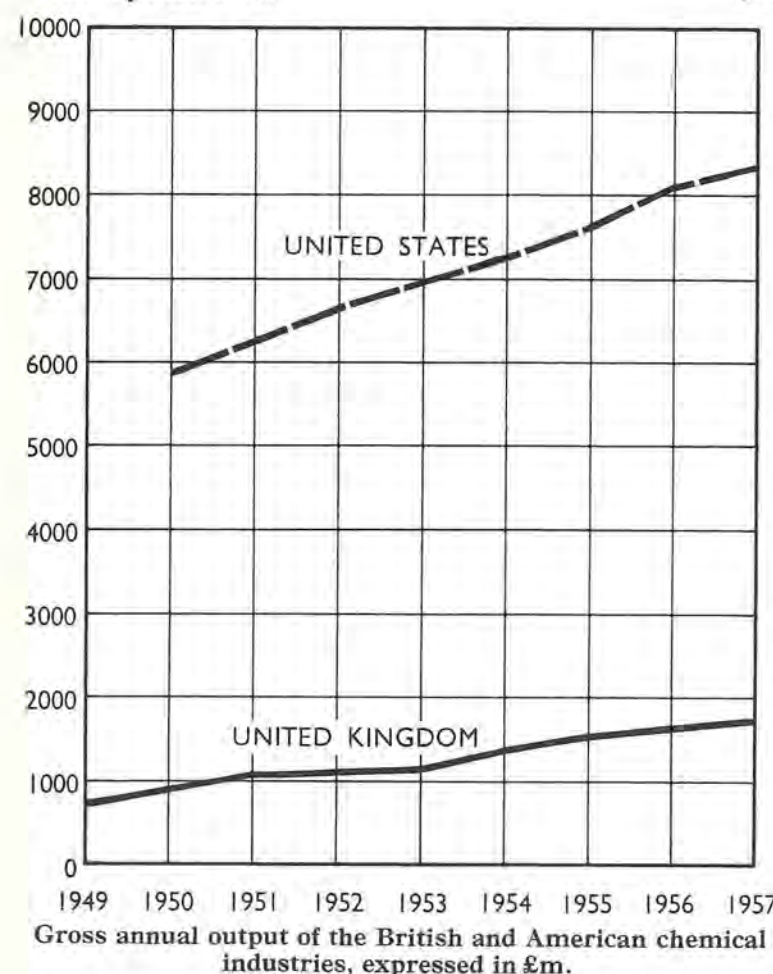
There are two other points that I would like to mention in this context. The first is that we believe a considerable measure of the control of our overseas investments ought to be in the hands of nationals of the country concerned, and this sometimes demands a farsighted and liberal programme of management selection and training. Second, we must be prepared, as a consequence of their industrialisation, to give to these developing countries access to our own markets where their products can economically compete. We are learning this hard lesson in Lancashire at the moment with imports of textiles from Hong Kong, India and Pakistan. If we do not grant such access, not only will their power to purchase our own exports be sapped, but the economies and the political structures of these developing countries will crumble.

All this means that to retain our competitive position overseas we in Britain must keep in the forefront of scientific and technological progress, so that in the United Kingdom new products or processes are brought out which in other countries would not be currently profitable or practicable. It is the new and more highly converted products, such as pharmaceuticals, plastics and synthetic fibres, that sell best abroad. Products developed substantially or entirely during the last ten years account for about 35% of the total value of I.C.I.'s exports, and if this pattern continues, as it must do in the context of increased local manufacture of traditional chemical products, or of products becoming traditional, then British chemical industry must maintain its technical progress.

I shall not dwell on the progress that

has been made in every sector of the industry, but I would just mention some of the highlights.

We are using four times as much anhydrite for sulphuric acid manufacture as we did in 1950; our chlorine production has increased by not less than 40% in that time. Our figures for nitrogen consumption are particularly striking: they rose from 60,000 tons a year before the war to 165,000 tons in 1946, and then to 325,000 by 1958; at 24.8 lb. per cultivated acre, the rate at which nitrogen is being applied to our land is three times the figure for the U.S.A. Petrochemicals production is expanding fast as a result of \$100 million worth of investment in the last five years; and plastics sales continue to increase. Few men foresaw when polyethylene was discovered in Britain 26 years ago that the world market would by now have exceeded a thousand million pounds. A new class of dyestuffs, the 'Procions,' a new anaesthetic, 'Fluothane,' and now the breakthrough announced by the Beecham Group in the penicillin field, are other examples of the forward thrusts that have recently been made.



British chemical industry is also active in the development of the newer metals for use in engineering and electronics. I welcome such diversification of activities in the chemical industry, and I regard it as a pointer to the future, for several of the new nuclear engineering materials require for their production a good deal of basic chemical knowledge. It is moreover an expanding market, because Great Britain, as you know, is investing heavily in the development of nuclear power, which is of far more importance to us now and in the next few decades than to the United States, with its greater resources of oil, gas, cheap coal and hydroelectricity. In view of the complexity of developments in this field there is much scope for doing business with countries having fewer technical resources.

New Construction Materials

I believe this to be one aspect of a general trend which began a few decades ago and will still continue: a significant tendency towards a much broader variety of materials used in general structural engineering and

the manufacture of articles. Aluminium was the first of these new materials, but we all know about the extended use of such things as magnesium, polyethylene piping, p.v.c. guttering, and methacrylate baths. A progressive industry will be prepared to extend its boundaries when it sees new fields for cultivation.

Dearer Electricity

This, as I have said, is a very rapid sketch of the principal forward thrusts of the British chemical industry, which has nearly doubled its output in the last ten years. We do not have the advantage of such a large home market, nor is our population increasing at such a high rate as that of the United States, which in the last decade has expanded by an amount equal to about half the total population of the United Kingdom. Moreover we have to pay roughly half as much again for our electrical energy. What we do have, however, is a compact home market and a compact source of those three vital raw materials—coal, lime and salt. With these assets, with an historic export tradition and now with a vital urge to expand overseas trade, we can look forward to conditions of further expansion in new fields discovered by modern research.

People and events . . .

The Top News during the Strike

SINCE we last appeared in print there have been two big items of Company news—the election of Mr. S. P. Chambers to succeed Sir Alexander Fleck, who plans to retire next February, and the link-up with Alcoa, the world's largest aluminium producers. The Alcoa story came first, on 24th June. The news was given at a joint press conference held at Imperial Chemical House in the late afternoon, and next day all the national newspapers carried the story with the exception only of the *Daily Mirror*.

Very briefly, I.C.I. and the Aluminium Company of America are going into partnership in the field of wrought aluminium production in Britain. A new company, Imperial Aluminium, is being formed in which I.C.I. will hold 51% of the capital and Alcoa the other 49%. Speaking at the press conference, Mr. S. P. Chambers referred to the partnership as "a happy marriage" and, with the British Aluminium affair in everyone's mind, he was at pains to emphasise that it was in no sense a take-over bid or anything of that kind. No share battles would be fought or lifelong friendships broken.

The new company will take over our existing aluminium rolling plant at Waunarlwydd in South Wales, which at present produces just under one-tenth of the total British output of wrought aluminium. About 1200 Metals Division employees are involved. Chairman of the new company is Dr. James Taylor, I.C.I. Main Board director in charge of metals and explosives, and Mr. Berkeley Villiers, Metals Division director in charge of aluminium, becomes managing director.

The next Chairman

ON the heels of the Alcoa news came the announcement on 25th June

of Sir Alexander Fleck's decision to relinquish his position as Chairman at the end of February 1960—he is 70 in November this year. Sir Alexander has been Chairman since June 1953, and by next February when he retires he will have been actively associated with the Company and its predecessors for over 44 years. He will be succeeded by Mr. S. P. Chambers, I.C.I.'s senior deputy chairman who is 55. This news too received wide comment in the national press, and we reprint a *Financial Times* article on the subject on page 240.

Titanium Price Cuts

METALS Division's Publicity Department had a delightful letter recently from a schoolboy, acknowledging a small sample of titanium. "If I ever build a steamboat," the letter promised, "it will be the only one in the world with a titanium funnel—absolutely resistant to corrosion!"

The young enthusiast may find, of course, that titanium funnels are quite commonplace by that time. This new metal, though still expensive in comparison with, say, steel or aluminium, is retreating rapidly from its initial "millionaire" rating.

The biggest reductions ever made in the price of British titanium—ranging from 12% to 25%—were announced by Metals Division on 1st June. So today I.C.I. titanium sheet,

which only six years ago cost £15 a lb., can be sold for 85s. a lb. Rod, which has always been cheaper because it is easier to make, is down to about 66s. a lb.

Cool Comfort

MORE than most people, the men responsible for making and selling 'Drikold' solid carbon dioxide tend to be weather conscious. Three-quarters of the 'Drikold' which leaves Billingham is used directly in connection with food or drink, and most of it is bought by people who are at their busiest in hot weather—the frozen foods companies, the fizzy drink makers, the railways and road transport firms moving meat, fish or fruit on its way to the customer and, of course, the ice-cream companies.

Wall's, Lyons' and Eldorado all buy 'Drikold,' along with a host of smaller manufacturers, and although ice cream is now eaten all the year round, business is still best at a hot weekend in summer.



Ever since Whitsun 'Drikold' sales have been benefiting from almost unbroken summer weather. Last year as a whole was a record one, and this year looks like being even better.

One of the reasons is our ever-increasing capacity for eating ice cream. In 1938 we ate only 20 million gallons of ice cream, by 1958 the figure had leaped to 60 million, and last year it reached the 100 million gallon mark.

A Triumph for 'Tenex'

SALES of silver polish are booming in Birmingham, where several homes are now adorned with truly massive trophies won by Kynoch men at the Bisley small-bore meeting.

This year every major event was won with I.C.I. 'Tenex' ammunition and all but one by a Kynoch marksman. The new British champion is A. D.



Mr. Skinner

Skinner—our fourth champion in nine years. The four events in the Grand Aggregate competition produced four Kynoch winners, W. B. Godwin, A. D. Skinner, J. Hall and T. J.

Knight, who headed the aggregate scores. Messrs. Hall, Skinner and Godwin collected four more trophies between them and, with Mr. Knight, won the two principal team events for the City of Birmingham Rifle Club.

To complete the triumph, C. J. A. Webb led the field in the Class B Aggregate. Five Kynoch men shot their way into the British team for the international Dewar match, and a Kynoch lady, Margaret Hatch, was I.C.I.'s first representative in the Randle women's international match.

'Melinex' Film Plans

'MELINEX,' the tough guy of the plastic film world, was in the news in July. Plastics Division, the sole manufacturers of polyester film in Britain, announced their plans to start large-scale production at Dumfries, where they have taken over the old 'Ardil' factory.

Cost of the structural changes necessary and of new machinery and equipment will be in the region of £2½ million, and the plant will even-

tually have a capacity of 2000 or more tons a year. When in full production (probably late next year) the plant will provide work for about 200 people, of which 170 are to be recruited locally.

Up to now Plastics Division's production of 'Melinex' has been restricted to the output from an enlarged pilot plant at Welwyn Garden City, but it has already found hundreds of applications in modern industry.

'Melinex,' which is made from 'Terylene' polymer, can be metallised, and most of us have met it in this form in the non-tarnishing tinsel, Christmas trees and other decorations which sold like hot cakes in the shops last December.

We apologise to readers that owing to the printing strike our July and August issues had to be cancelled. The Kynoch Press at Birmingham was of course just as much involved in the printing dispute as outside firms, and all work ceased by 19th June. At that date our July issue was almost three-quarters printed. The main features of the July *Magazine* are therefore appearing in this issue, and by including an extra two pages in the news section we have done our best to cope with the accumulated later news.

Other novel applications of metallised 'Melinex' include vacuum-formed containers for food. These containers can stand up to normal cooking temperatures, so it should soon be possible to buy, say, frozen vegetables, cake mixes or even a whole chicken in a 'Melinex' pack ready to be popped straight into the oven. (Picture on page 244.)

Work Study on the Farm

A COPYBOOK of farming for the future" is how the *Daily Express* agricultural correspondent described the 404-acre farm near Wolverhampton of Mr. Peter Smith, which was on

show to over a thousand farmers from all over Britain on 2nd July.

The demonstration at Mr. Smith's farm was organised by the Staffordshire Agricultural Productivity Committee, supported by the Ministry of Agriculture, the National Farmers' Union and I.C.I.

How did I.C.I. come to be involved? Experts are agreed that too many farmers still try to tackle too many different jobs. They need to weed out



their least profitable lines and apply production methods based on detailed studies of the work involved and the profitability of the various enterprises. Mr. Smith began to do this eight years ago on the advice of I.C.I.'s Agricultural Work Study Unit.

At first, Mr. Smith admits, he went into it with some reluctance. Now, however, he has the most "work-studied" farm in the whole country. Whereas ten years ago he was producing fifteen different lines, now he concentrates on wheat, beef, cattle, pigs, turkeys and—rather an unexpected one, this—blackcurrants.

Before our work study team took a hand the gross output of Mr. Smith's farm was £34,000 a year. Today the estimated potential has been stepped up to £60,000 and capital equipment reduced by one-third.

Russia and the Robot

MR. A. J. YOUNG, head of the I.C.I. Central Instrument Laboratory at Pangbourne in Berkshire, recently spent a fortnight in Russia as a member of the six-man mission sent out under the auspices of the British Council and the Institution of Engineers to study developments and applications

IN BRIEF

Aid for Refugees. The Company has made a donation of £10,000 to the United Kingdom Committee of the World Refugee Year.

Fit for a Princess. The two DC3 aircraft being used by Princess Alexandra on her tour of Australia were refitted for the occasion with I.C.I.A.N.Z. 'Vynex' leathercloth (corresponding to I.C.I. 'Vynide') for the walls, seats and tables. Flight Lt. J. T. Carter, an ex-I.C.I.-A.N.Z. man, is a member of one of the R.A.A.F. crews.

New Subsidiary. British Visqueen Ltd., I.C.I.'s polythene film-making subsidiary, has bought the share capital of Spesco (Developments) Ltd., manufacturers of bags from polythene film.

Two Divisions to Merge. For administrative reasons Lime Division is to be merged into Alkali Division on 1st January 1960, and from then on will be known as the Buxton Lime Works of that Division. This announcement was made and the position explained by Mr. L. B. Ryder (Lime Division Chairman) to representative meetings of the staff and workers on 20th July. He made it clear that there would be no effect on production, and employment of the payroll workers would not be affected. Although the merger will involve a reorganisation of staff, this will be spread over a lengthy period.

Gala Day at Witton. Sports, a flower show, a homecrafts exhibition, a display of Company products from 11 divisions, Scottish dancing displays and judo performances—not to mention the election of Miss Witton—were among the attractions at the Witton Gala in June, which was attended by well over 5000 employees and their families and friends. The gala was visited by a B.B.C. television camera unit, and some of the day's events duly appeared in "Midland News" at 6.10 p.m. on the following Monday.

In a Nutshell. Billingham Works, the largest chemical factory in the Commonwealth, employs more than 18,000 people, occupies an 1100-acre site which has 90 miles of private railway line and more miles of paved road, makes 90 different products—the total annual output approaches 2½ million tons a year—and uses in the process nearly 5000 tons of coal every twenty-four hours.

In the Bag. Thousands of fish-seeking tourists who have cast fly lines on to remote streams and lakes in Canada's national parks this summer have polythene to thank if their catch has been a good one. The chances are that the trout reached these waters while asleep in a polythene bag. Restocking the lakes used to be a difficult and costly job for the Canadian Wildlife Service and National Parks Branch. Now the fish are tranquillised and shipped to their destination in polythene bags. In Canada C.I.L. make polythene under licence from I.C.I. at their Edmonton Works.

All-England Sports. The All-England schools athletic championships were held at Alkali Division's Moss Farm sports ground on 17th and 18th July. Events on the final day were followed by a gala staged by the Division, which included a floodlit tattoo with bands of the Coldstream Guards, the Rifle Brigade and the Parachute Regiment, and this in turn was followed by a firework display.

Tackling the Road Toll. Safety belts made of 'Terylene' webbing are to be installed in all I.C.I.A.N.Z. cars, trucks and vans as a move to increase driving safety. Victoria's acting premier, Mr. Rylah, has praised I.C.I.-A.N.Z.'s action and said he hoped other firms would follow the I.C.I.A.N.Z. lead.

Veteran. The old 90-line automatic telephone exchange installed when the Billingham site was first started by Brunner, Mond & Co. in 1921, and used since 1929 in Gas and Power Works as an addition to the main factory system, has been dismantled. It is believed to have been one of the first automatic exchanges in Britain. The new exchange which replaces it and is also additional to the main system will serve 200 extensions.

"Tomis" and "Terylene." 'Terylene' sails have already been widely accepted by yachtsmen in this country. Now they look like making their mark behind the Iron Curtain too. The 8 metre International cruiser/racer *Tomis* which has just been built in Scotland for the Rumanian People's Republic carries two complete suits of 'Terylene' sails and 1300 ft. of 'Terylene' rope.

of automatic control techniques in industry there.

Inevitably anyone returning from behind the Iron Curtain gets asked what impressed them most. For Mr. Young it was the evidence everywhere of the massive programme of technical

education which is turning out qualified technologists at the rate of tens of thousands a year. At Moscow University alone there are 20,000 students studying science subjects, while at the various teaching institutes (roughly the equivalent of our technical colleges)

visited by the mission the smallest had 6000 students on the register and the largest over 13,000.

The British party also visited a number of research institutes controlled by the U.S.S.R. Academy of Sciences, all working in the field of automatic control and the associated field of computers, and several industrial institutes, which form the link between the research organisations and industry itself. Here again it was the scale of the effort which impressed. The number of trained scientists and engineers employed at each ran into hundreds.

* * *

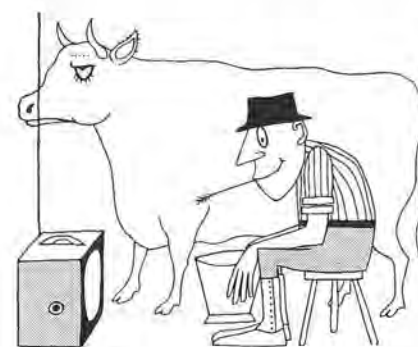
The result of this drive, says Mr. Young, is that the Russians have virtually caught up with our own and with American developments in automation. And the sheer size of the effort now being made, in his opinion, shows quite clearly that in a few years' time they are very likely to take a leading place in the "control" field, as they already have in other scientific fields. The party also went over several factories, but not a chemical works. So Mr. Young was not able to give us any direct comparisons between ourselves—I.C.I. is currently spending over £1½ million a year on instrumentation—and the Soviet chemical industry.

Limelight on Fertilizers

IF 'Nitro-Chalk' fertilizer sales break any records this year part of the credit will probably be due to Bernard Miles, the Mermaid Theatre man. It is a far cry from Puddle Dock to Billingham, but aside from guiding the fortunes of the Mermaid, Mr. Miles has been exhorting farmers to buy I.C.I. nitrogen fertilizer 'Nitro-Chalk' in a series of commercial spots being put out over the A.B.C. Television network in conjunction with their popular farming programme called "The Other Man's Farm."

These commercials have been made for Central Agricultural Control by the I.C.I. Film Unit and are the Unit's first venture into the realm of television commercials. Originally it

was planned to do a very brief documentary on grassland management; this, however, was felt to be too much like the rest of the programme, and



the idea was soon abandoned in favour of a more light-hearted approach, and Bernard Miles' services were obtained.

Advertising to farmers by television is something quite new for I.C.I., but reaction, say C.A.C., has been surprisingly favourable. Now Paints Division's market research section, at the special request of C.A.C., is busy conducting a detailed survey of farmers in the A.B.C. network area to find out how many of them are keen viewers of the farming programme and, more important, how well I.C.I.'s "Milesian" commercials stick in their memory.

£260 Brainwave

BILL SHARPS, an Alkali Division chargehand fitter, looked up at the salt liquor settler in the Winnington Salt Plant where he was working. Then he looked at the stock tanks some distance away into which the overflow from the settler was being pumped. Surely, he thought, it should be possible to connect up a pipe to the overflow of the settler so that the



Mr. Bill Sharps

liquor would flow into the stock tank by gravity. And in that case, why have a pump at all?

Later, while discussing a mainte-

nance job over a cup of tea in the foreman's office, he put his idea forward. He took a piece of chalk and drew on the blackboard a diagram showing how he thought it might be done. Although the pump had been necessary when the plant was originally designed, and constructed, modifications since made it doubtful whether the pump was now needed.

On the advice of his area manager, Mr. Sharps put his suggestion in for consideration under the I.C.I. Suggestion Scheme, and the Division Suggestions Committee made an interim award of £1 pending a trial run using the idea. At the end of three months it was decided that the existing pump could be safely removed.

Investigation of the saving involved revealed that during the past five years replacements had amounted to 16 pumps at an average repair cost of £129 each, one motor at £38 and one and a half starters at £32—altogether averaging £430 in one year. Other savings on labour for repairs and installation and in electric power brought the figure up to £520. Since the recommended award was fifty per cent. of the first year's savings, Mr. Sharps is now the richer by £260.

I.C.I. at the Game Fair

FARMERS and falconers, anglers and archers, gamekeepers, shooting men and casual visitors by the thousand descended on Hackwood Park near Basingstoke on 24th and 25th July for the Game Fair organised by the Country Landowners' Association.

There was plenty to interest everyone, with lessons in bowmanship, gun-dog tests, clay-pigeon shooting, trout-fly casting competitions (in an artificial lake lined with 'Visqueen' constructed specially for the Fair) and displays of falconry.

But the chief object of the Game Fair—the first was held last year in Suffolk—is to show landowners and farmers how modern methods of game management can help them build up a successful shoot on a modest acreage. This is where I.C.I.'s Game Research Station at Fordingbridge comes into the picture. Their exhibit was actually an acre of the park set out as a minia-

ture game preserve, with live pheasants in breeding pens, partridges in rearing pens, crow and other vermin traps, nesting sanctuaries, winter feed hoppers, and, perhaps the biggest draw, an incubator of pheasant chicks which had hatched out overnight.

Metals Division was also represented in "Gunmakers Row" with a stand advertising I.C.I. ammunition. One of the exhibits on the stand was a pendulum gun which measured pressure, recoil and velocities to millionths of a second. This was responsible for an amusing incident when the royal patron, the Duke of Gloucester, touring the Fair in a vintage shooting brake, arrived on the stand. A member of the staff hurried forward to fire the gun, but to everyone's consternation nothing happened. The explanation, which produced a chuckle from the Duke, was simple. In the excitement of the moment no one had thought to put a cartridge in.

Miss Webster Retires

MISS BESSIE WEBSTER of Central Labour Department retired at the end of June after more than 30 years' service.

A colleague at Head Office writes:

Retirement and Bessie Webster sound like a contradiction in terms. Bessie could no more retire than the sun. But we have to accustom ourselves to the thought that henceforth she will be shining mostly elsewhere.

She had the gift of getting the best out of everybody. The pompous used to find after a few moments that she was laughing at them, but laughing in so infectious a manner that they were soon tempted to join in. The aggrieved used to discover that in her presence their congealments began to thaw. The ice of self-pity melted before her gaze.

Came the three corners of the world in arms, Bessie Webster would not, like Shakespeare in *King John*, just shock them. In the most unconcerned



Miss Webster



The Dracone on its way down the Tees at the start of the first deep sea trial

manner imaginable she would first disarm them, then nonchalantly turn them round; almost negligently, and while talking of half a dozen things simultaneously, tie labels on them, readdressing them; and then perhaps with an encouraging pat on their backs, a word of genial assurance in their ears that their trouble had certainly not been in vain, would send them, tamed and docile, right back where they had started from.

Can it be wondered at that the ovation she received upon her last appearance at Central Council was the most spontaneous and enthusiastic in I.C.I. history, and that the assembly of friends to say goodbye to her on the occasion of her recent presentation at Head Office was the largest and the most affectionate within memory?

Bird's-eye View of Tibet

WHERE air travel is concerned, the chinks in the Iron Curtain get bigger every day. It is now possible, for anyone who wishes, to fly to or from India and beyond via Moscow. As far as we know, the first person in I.C.I. to have travelled this route is **Mr. Basil Goodfellow**, Head of the India

Department at Millbank, who seized the opportunity for a quick peep behind the Iron Curtain—the journey involves an overnight stop in Moscow—on the homeward stretch of a recent visit to I.C.I. (India).

The first leg of the flight from Delhi to Moscow crosses Tibet, and, al-



though perhaps not everyone's cup of tea, there can be no scheduled air route in the world with more spectacular scenery. The T.U.104a, he reports, is a large and extremely comfortable twin-jet aircraft, but the Russians make fewer concessions to the inner man than, say, B.O.A.C.; the food was plain, and no strong drinks were offered on the seven-hour flight.

Another regret, and a lasting one, was that photography was strictly forbidden by both the Indian and the Russian authorities. Nor were details of the route taken supplied. But to Mr. Goodfellow, who was secretary of the organising committee for the Coronation Everest expedition, this was rather less of a handicap than it would have been to most of us, and his account of the journey bristled with names of some of the world's highest peaks, familiar to readers of mountaineering literature.

Dracone Trials

THE idea of towing bulk liquid cargoes in sausage-like floating containers originated at the time of the Suez crisis in 1956 as one means of increasing oil payloads on the long haul round the Cape from the Middle East. The idea has been developed by Dracone Developments, sponsored by the National Research Development Corporation, and recently the stage was reached for a deep-sea trial, transporting a cargo under commercial conditions to an overseas destination.

Our Heavy Organic Chemicals Division, who export in large-tonnage shipments many lighter-than-water petroleum chemicals, arranged to collaborate with Dracone Developments to ship a trial cargo of liquid hydrocarbons from Tees-side to Flushing in Holland.

Dracone D4, which has a carrying capacity of 40 tons, was selected for the job. The skin, only about three-twentieths of an inch thick, is of woven nylon fabric, proofed inside with oil-resistant acrylonitrile-butadiene rubber and outside with neoprene.

Loading from road tankers at the I.C.I. wharf at Billingham was accomplished without difficulty. Dracone D4 was unwound from the reel on which it had been transported to Billingham by lorry, and filled through a pipe connection as it lay on the water. After a short trial in the open sea, the Dracone, towed by the ocean-going tug *Fiery Cross* of Middlesbrough, sailed for Flushing on Saturday, 23rd May. The 260 mile journey was completed at an average speed of just under seven knots, and the Dracone was successfully berthed at Flushing on

the Monday—a nice feather in the cap for Dracone Developments and Heavy Organic Chemicals Division.

Nobel Closures

AT the end of June came the news that Nobel Division is to close four of its smaller factories. Three of the four, the Bickford-Smith factories at Tuckingmill and Kennall Vale in Cornwall, and Crosslee Mills in Renfrewshire, are concerned with the manufacture of safety fuse, which was invented by William Bickford and first made at Tuckingmill over a century and a quarter ago. Closure of these factories has become necessary because of decisions taken to manufacture safety fuse and fuse powder in India, and more particularly in South Africa, hitherto Nobel Division's two biggest overseas markets.

Indian Explosives Ltd. have a plant under construction which will come into operation early next year, and A.E. & C.I., which already operates large factories that make blasting explosives and all blasting accessories except safety fuse, will erect a safety fuse plant which is expected to be in operation by mid-1961.

* * *

As a first stage the Bickford-Smith factory will revert to single-shift working next year, and when the South African plant is in operation the Cornish factories will be closed. Nobel Division's remaining safety fuse manufacture will be at Ardeer, where the existing plant will revert to single-shift working. Blackpowder and potassium nitrate manufacture at Ardeer will also be reduced.

Crosslee Mills, which prepare cotton yarn "doubles" for safety fuse manufacture, will be closed early next year, because technical advance has made this operation unnecessary.

The fourth factory to be closed is Sabulite in County Durham, one of the five installations making industrial explosives in Great Britain which are controlled by Nobel Division. Sabulite has no nitroglycerine plant of its own, and nitroglycerine powders which form part of its manufacture can be more conveniently made at Penrhyn-

PEOPLE

It is announced with regret that the **Viscount Weir**, a former director of the Company, died on 2nd July at the age of 82. Lord Weir was on the Board of the Company as a non-executive director from 1928 to 1953.

During her visit to Ottawa on 1st July the Queen presented new colours to three Canadian regiments at a special ceremony watched by a crowd of over 10,000 people. One of the regiments was the Canadian Grenadier Guards, whose commanding officer is a C.I.L. employee, **Lt. Col. G. R. Whiston**.

Sir Alexander Fleck, I.C.I. Chairman, was the opening speaker at the International Youth Science Fortnight held in London in July. The meeting, which was under the patronage of the Duke of Edinburgh, was attended by about 250 schoolchildren from West European countries.

Mr. Paul Smith (Dyestuffs Division) has been awarded a black belt by the British Judo Association—one of the highest awards available in this country. He took up judo only three years ago.

Mr. Gordon House, an artist/designer in Plastics Division's Technical Service Department, held his first one-man show at the New Vision Centre Gallery in London in July. He has previously exhibited in group shows, including the London Group 1959, and an exhibition of British graphic art put on in Germany last year.

A processman in the Oil Works at Billingham, **Mr. Jack Roy**, has been granted leave of absence by the Company to go to Ghana to coach boxers there for the 1960 Olympic Games. In 1940 he reached the final of the Northern Counties championships, being beaten by Bruce Woodcock.

One of the five members reported missing from a Himalayan expedition last month was **Mr. Harry Stephenson** (22), a Wilton Works engineer. Hope of their survival has now been abandoned. They were making an attempt on a 25,540 ft. peak—the highest of eight unnamed peaks in the Himalayas. Another Wilton engineer on the expedition, **Mr. John Edwards**, the party's glaciologist, who stayed behind at the base camp to carry out scientific studies while the other five members tried for the summit, is safe.

Dr. James Craik (Nobel Division chairman) has been elected a vice-president of the Society of Chemical Industry.

Mr. Henry Maxwell (Head Office) was invested with the insignia of Commander of the Order of the Crown of Thailand on behalf of the King of Thailand by Prince Chula of Thailand at his home in Cornwall on 16th May. The citation reads: "For services in promoting closer relations between Thailand and Great Britain."

Sir Frederick Bain, a deputy chairman of I.C.I. from 1945 until his death in 1950, is one of the 725 famous men and women from all walks of life whose lives are singled out for mention in the latest volume of the *Dictionary of National Biography*. He is placed between Baden-Powell, the founder of the Scout movement, and Baird, the TV pioneer.

Miss Lily Bevan, a 'Nyzip' rectifier at Metals Division's Glasnant factory, won the Katherine Gerrish trophy for the best contralto, a certificate for lieder singing and another for a Handel solo at the recent Bristol Eisteddfod. The adjudicator was Isobel Baillie.

deudraeth in North Wales and Ardeer, which have their own nitroglycerine plants and surplus capacity. T.N.T./ammonium nitrate explosive mixtures are also made at Sabulite. This production will be transferred to Roburite Factory in Lancashire, which now makes similar types of explosives. Sabulite production is to be phased so that it will end by next June, but the site is being retained as a depot.

New-look Stock Certificates

IN an average week Stock and Share Department issues 1500 new stock certificates. Under the Company's Articles of Association, each had to be

signed twice by special secretaries appointed by the I.C.I. Board. Last year, with the one-for-two scrip issue, 300,000 certificates had to be prepared, checked, sealed and signed in less than two months, necessitating over half a million signatures.

To deal with such an emergency no fewer than sixteen additional "special secretaries" had to be appointed. That is why, at the I.C.I. Annual General Meeting, having previously obtained the Stock Exchange's agreement to this step, the Board sought the stockholders' approval for omitting signatures from stock certificates. These signatures, as **Sir Alexander Fleck** pointed out when

he proposed the resolution, played no part at all in the security precautions the Company takes to see that certificates are correctly issued. They had become a piece of pure tradition, and a very time-wasting one at that. As far as we know, I.C.I. is the first company in the country to have sought the Stock Exchange's approval for such changes.

The 53,000 members of the Profit Sharing Scheme who have 40 or more units of stock to their credit will be receiving the new style certificates (shown right) next month.

Scouting Honour

FORTY-SIX years ago a boy of twelve joined the Scouts. His name was George Begg. He grew up, left school, and studied engineering—not without success, for he is now the Engineering Director of I.C.I.'s Alkali Division.



Mr. G. Begg

Throughout those years, however, Mr. Begg's interest in scouting has remained as keen as ever it was.

He holds the rank of assistant County Commissioner for West Cheshire and for South-East Lancashire and is Camp Warden of the permanent Scout camp that he was largely instrumental in establishing at Sandiway, Cheshire, 25 years ago.

A tangible recognition of his service to the Scout movement came at a rally attended by 3000 Boy Scouts at Ashworth Valley Scout Camp, Heywood, Lancashire, when the Chief Scout, Lord Rowallan, presented Mr. Begg with the Silver Wolf Badge.

This is the highest award that can be given to any scouter and the decision to make such an award is taken by the Chief Scout himself.

Turin Film Trophies

MANY readers will remember the I.C.I. safety film *The Human Factor*, which had its first showing at Central Council at Blackpool last November. More recently it was one of thirteen films selected by the



The new-look stock certificate which omits the traditional signatures

Federation of British Industries which made up the British entry at the first international industrial film festival held in Turin at the end of June.

Altogether thirty-four countries took part and something like 135 films were shown. Belgium, France and Germany walked away with the bulk of the prizes, but Britain had three successes

with *New Lease of Life* (Central Office of Information), *Skyhook* (British Petroleum) and our own *Human Factor*, which won second prize in the safety film class—the first prize went to the Belgians for a film on safety in coal mines—and a special prize, the Pecchioli Cup, awarded for outstanding technical quality.

The I.C.I. Film Unit, which made *The Human Factor* for Safety Department, is currently working on a film about Nobel Division, and scripting begins shortly on a new film as yet without a title on engineering as a career.

Just for the Record

AN African, Phineas Mthetwa, employed by I.C.I. (South Africa)'s Durban Office as a bicycle delivery boy, submitted this letter advising the branch manager that he has a licence to drive a motor car.

"It is a great surprise to receive a letter from your servant? Nothing wrong sir, the only thing which I would like to explain to you is as following:

"I have enclosed my licence in the

same envelope to show you that I've got the knowledge of driving. So could you please take me as a driver if it happens sometimes, anytime if the chauffeur is needed. By saying so I don't mean that I want to be a chauffeur at once. I am just advising, or let you know that I've got the knowledge of driving."

APPOINTMENTS

Some recent appointments in I.C.I. are: **Alkali Division:** Mr. J. H. Bradley, Special Assistant to the Engineering Director; Mr. R. N. L. Clarke, Deputy Works Manager, Middlewich; Mr. H. M. Spittle, Lostock Works Manager. **Dyestuffs Division:** Mr. L. Birch, Assistant Accountant (in addition to Mr. N. Lawton and Mr. I. R. Morgan); Mr. J. Pearse, Director. **Fibres Division:** Mr. B. R. May, Director. **General Chemicals Division:** Mr. R. R. Robinson, Distribution Manager; Mr. J. Percy, Deputy Chief Accountant; Mr. W. C. Lyle, Director; Mr. J. V. S. Glass, Director. **Head Office:** Mr. J. W. Scougal, Assistant Accountant. **I.C.I. (Export) Ltd.:** Dr. F. H. Peakin, Frankfurt Branch Manager. **Metals Division:** Mr. S. P. Davies, Director. **Nobel Division:** Dr. W. A. Caldwell, Research Director. **Plastics Division:** Mr. A. J. Barrett, Secretary; Mr. D. W. Ginns, Engineering Director. **The Regions:** Mr. D. R. Hunter, Region Manager. **Salt Division:** Mr. A. Fryer, Chief Accountant.

RETIREMENTS

Some recent announcements of senior staff retirements are: **Alkali Division:** Mr. A. L. Davies, Lostock Works Manager (retiring 31st October); Mr. G. H. Thorpe, Special Assistant to the Engineering Director (retired 31st May). **Fibres Division:** Mr. H. West, Engineering Director (retired 31st August). **General Chemicals Division:** Mr. C. G. Harris, Director (retires 31st December). **Lime Division:** Mr. L. B. Ryder, chairman; Dr. F. P. Stowell, Research and Development Director (retiring 31st December). **Nobel Division:** Mr. D. Traill, Research Director (retiring 31st October). **Plastics Division:** Mr. L. Dobson, Engineering Director (resigned 31st August); Mr. S. P. Thompson, Secretary (resigning 21st September).

OBITUARY

Sir John Nicholson

It is with regret that we announce the death on 13th June of Sir John Nicholson, a deputy chairman of the Company from 1940 to 1945. He was 79.

Mr. E. M. Fraser (former I.C.I. Sales Controller) writes:

"Sir John" is too pompous a name for that ingenious, hard-hitting, in-fighting

Scot, who was long in charge of the commercial affairs first of Brunner-Mond and subsequently of I.C.I. As "J.G.N." he was known and as J.G.N. he will be remembered.

One of his several brothers has told how as youngsters the brothers used to have debates on selected subjects, and that "Jack always won." And J.G.N. himself admitted that he enjoyed argument and did not much care which side he took. Indeed, he was a violent dialectician; as Goldsmith said: "There is no arguing with Johnson; for when his pistol misses fire, he knocks you down with the butt end of it."

This illustrates where J.G.N.'s strength lay—he was a superb tactician. His leaders—Brock, Sir John Yarmay, Lord Melchett, Lord McGowan—devised the strategy: he chose the tactics that carried out the strategic plan. This often involved much thought and labour, but he also relied on his flair. His then P.A. recalls J.G.N. saying to him, "I've told the Board what I've decided. Now write me a paper explaining why I've come to that decision." And this flair was sometimes disconcerting. J.G.N. has been known to agree with his team a plan for a sales negotiation but, before the first meeting was an hour old, to abandon the plan completely and, by a sequence of brilliant improvisations, to attain his end—not invariably that previously agreed upon.

He was strong in his likes and dislikes. It was difficult to recover his favour; but for those he thought well of he was almost intemperate in his advocacy. And just as he sometimes aroused strong dislike, so he attracted deep affection in many with whom he had close contacts. Particularly he was loved by the subordinates—the clerks and junior managers—whom he cursed freely, but also jested with, and for whom and for whose wives and families he could never do too much. Men worked hard for him.

They had to. For he seemed for ever to be tearing in pieces some existing organisation and substituting another he liked better. He was a great inventor, and many of his inventions have endured. He was the father of the chain of I.C.I. overseas selling companies (many of which are today manufacturers also), the Home Trade Selling organisation, and of Scottish Agricultural Industries Ltd.; and (what is scarcely remembered) he and Lloyd Roberts were the first framers of what is called today the Staff Grade Scheme.

The idiom of his thinking and of his approach to problems might not suit modern conditions. But in his day and prime he worked greatly for I.C.I. and has set his mark on much of it.

Mr. R. Fort

Mr. J. L. S. Steel (Economic Planning Director) writes:

Richard Fort, who was killed in a motor-accident on 16th May, joined I.C.I. (Alkali) Ltd. in 1932 after having been at New College, Oxford, and Vienna University.

After a short time in the Research Department and in the works he joined the Techno-Commercial Department at Win-

nington, where he worked, among others, with Mr. P. C. Allen, Mr. R. A. Banks, Mr. C. R. Prichard and the writer. In 1935 he went to assist Mr. George White in the New York office and succeeded him as President of I.C.I. (New York) Ltd. on Mr. White's retirement in 1938. In 1940 he joined the British Supply Mission in Washington and New York. He returned to England in 1941, and from then until the end of the war worked in the Ministry of Supply and was closely associated with Mr. Clive of the Metals Division in the production of 303 in. ammunition.

At the 1945 general election he contested the Clitheroe Division of Lancashire. He just failed to secure election but assiduously nursed the constituency until the election of 1950, when he was returned as member. During this time he was a consultant to I.C.I., and in 1952 he joined the I.C.I. Development Department as a part time member.

Mr. Fort had a great range of friends both inside and outside I.C.I., and his interests were many and varied. Perhaps the political scene was uppermost in his mind, and this is not surprising in view of the family tradition of political service. His great-grandfather, grandfather and uncle had all at some time been members for Clitheroe; but his enthusiasms were not confined to politics, and all those in I.C.I. who met him realised the intense interest he showed in the problems of industry. The background knowledge he acquired during his service with I.C.I. was put to good use in his public work. He became a lay member of the General Medical Council in 1955, and he was a governor of the Imperial College of Science. But the thing of which he was most proud, and rightly so, was his appointment only two years ago as chairman of the Parliamentary Scientific Committee.

As a back-bencher he not only faithfully served his constituents but was a popular and effective member of the House, with friends on both sides.

Those who knew Richard Fort personally had a strong affection for him, and he was the most hospitable of men. It is tragic that he should have lost his life at the early age of 51 when he had so much before him and was such an enthusiast.

Mr. T. J. Dixon

We deeply regret to announce the death on 9th June of Mr. T. J. Dixon, a former works manager of Springfields Factory and a member of the Magazine Advisory Panel from 1949 until he retired in 1953.

The Editor writes:

I don't wish to give here a recital of Tom Dixon's career in General Chemicals Division but to make such acknowledgment as I can to the passing of a widely loved personality. In T.J. (as he was often called) were combined the ideals of Christian service and the outlook of a man to whom both work and play are, quite simply, fun. He was always bubbling with enthusiasm. He always welcomed new ideas. He always understood how others were thinking. When Tom was around everyone was the better for his presence. He was of the stuff of which successful teamwork is made.

The Land of the Basques

By Alan J. Maier

To most of us, the South of France means the Riviera. But it can also mean that unique country at the foothills of the Pyrenees, where a race apart—with their own language—cherish their own traditions and a special skill at ball games.

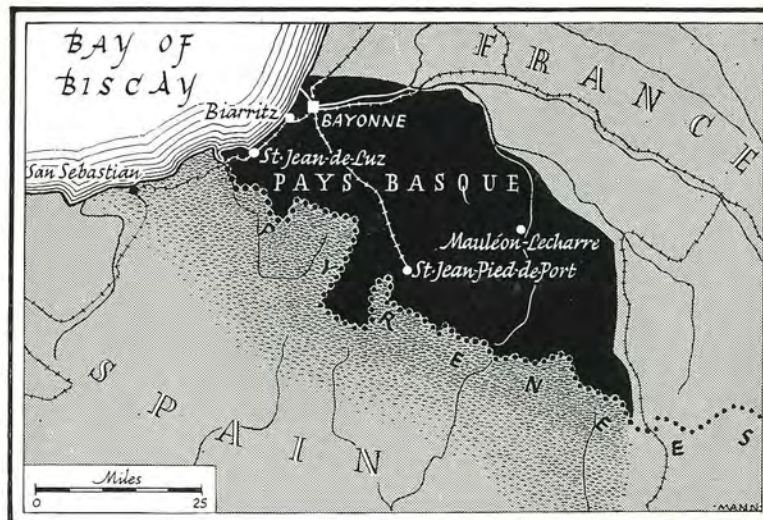
WHEN Carson gently let in the clutch of the Rolls, he would, as likely as not, be transporting Berry & Co. from Whiteladies to a warmer climate in the South of France. Students of the writings of Dornford Yates will know that this means, not the French Riviera, but the Pau-Biarritz area made fashionable for the English gentry by Edward VII.

Last summer, rather less gently, I let in the clutch of a borrowed Fiat, and Maier & Co. set forth likewise for the heart of the Dornford Yates country, the Basses-Pyrénées, or more precisely for that part of it which is the Pays Basque. We were headed for Biarritz, the charms of which had encouraged Napoleon III in 1854 to build a villa there for his Empress, Eugénie. But despite imperial patronage, the French Basque country remained relatively unknown until the English discovered its delightful winter climate. By 1870, in the way they had of rustivating themselves abroad when their children were too numerous or their debts too pressing, many English families lived in Biarritz, and it is ecstatically described in a guide book of the time as "the Bournemouth of the Bay of Biscay."

Queen Victoria with the Prince of Wales

gave it the accolade of their royal approval. It was in Biarritz later that Edward VII in 1908 received Asquith, who kissed hands there on becoming Prime Minister. Altogether an Anglican church, a club, streets with English names and a golf course have combined to give the place a strongly English flavour. Long after, when the Germans came in 1940, they tore down all the English signs, but they overlooked one wordless one: there still swings above a tailor's shop a sign with the silhouette of the King, beard, morning coat, top hat and all.

The glossy veneer of fashionable Biarritz does not,



STREET SCENE IN BAYONNE



TUNNY FISHING-BOATS AT SAINT JEAN DE LUZ

even today, completely conceal the Basque character of the place. The Basque country is unique, one of those left-over corners of the world where the race of time is slowed down, and where an ancient people has preserved intact its own ways, fishing off the wild Atlantic coast and farming among the green and often wooded foot-hills of the Pyrenees.

Turning your back on Biarritz you can drive and within a few minutes be inland among an idyllic landscape of steep little hills topped by snowy chalet-type farms, their beams characteristically painted in green or red; and pass narrowly on sudden corners the farmer with his stick and Basque beret and his span of oxen wearing shaggy fleeces to protect them from flies and the hot southern sun. A little further on the hills get steeper and you wind briskly upward into the Pyrenees, where a forbidding Spanish frontier guard will suddenly and smilingly relent to allow children

to put their toes into Spain. On the ridge that is the frontier, the view on either side is breathtaking—green and undulating away to the Atlantic coast and at one's back Spain, browner and bleaker, but each hill still crowned with its Basque house.

The origins of the Basque people are wrapped in mysterious obscurity. The more romantic ones among them think of themselves as castaways from the vanished continent of Atlantis. Others believe that the Basques have never lived anywhere but in the land they still inhabit.

The extraordinary language, which they still speak, gives no real clue to their origin. What can one make of place names such as Itxassou, Zugarramurdi and Hasparren? Some authorities see a likeness to Finnish, some to the language of the North American Indians and some to Japanese. No wonder they believe the language existed before the building of the Tower of



A BASQUE FARMER WITH A SPAN OF OXEN, THEIR HEADS PROTECTED BY STRAW HATS AGAINST THE SUN

Babel. Basque grammarians think of their language as being something like algebra and incapable of expressing abstract ideas: in fact, they say, it would be impossible to write a philosophical treatise in it, if anyone had a mind to try.

Whatever their origins the Basques have retained strongly marked national characteristics. They are a hardy race with hook noses and long faces. Fishermen and farmers, brave, devout and gay, they still practise their ancient crafts and enjoy their traditional pastimes, especially dancing and all forms of sport.

Saint Jean de Luz is the centre of their fishing industry. They have always been great fishermen. A pilot of Saint Jean de Luz is said to have been the first to suggest to Christopher Columbus the possible existence of America. They certainly knew of Newfoundland, and when the whales, that they used to hunt, deserted the Bay of Biscay they went as far afield as Iceland in search of them. Today they are tunny fishermen, and you can stand on the quayside and watch them throwing from one blue boat to the next these huge glistening fish that have been wrested from the Gulf of Gascony.

A strongly marked characteristic of the Basques is their remarkable facility for ball games. Every village has at least one "fronton," a high wall against which they play one of the several varieties of "pélote basque." There is a sort of Rugby fives, played at

tremendous speed with a hard ball and bare hands. Another is played with a "pala" which is something like an outsize table-tennis bat, and yet another variety is played with a basket-like glove known as a "chistera." Though almost universally known as Pelota, to the Basques the game is "Yoko-garbi." Under either name it is probably the world's fastest ball-game.

The bigger towns also have closed courts called "trinquets" with galleries for spectators at different levels; but the design varies, and the one in which, without much success, I played a game of "pala" was a cross between a racquets court and a royal tennis court complete with penthouse roof. Almost every man and boy plays "pélote basque," and it is a pleasant sight to see the village priest, in his cassock and basque beret, coaching the younger members of his congregation.

At 60 Jean Borotra, "the Bounding Basque" and a Wimbledon champion of the 1920s, is still successfully playing championship lawn tennis. Etchebaster, another typically Basque name, was world tennis champion for more than twenty years. Hirigoyen played golf in France in the first competition for the Eisenhower Trophy. With the high rainfall the country enjoys, it seems extraordinary that the Basques have not yet taken to cricket: it is surely not Berry's fault that they haven't.

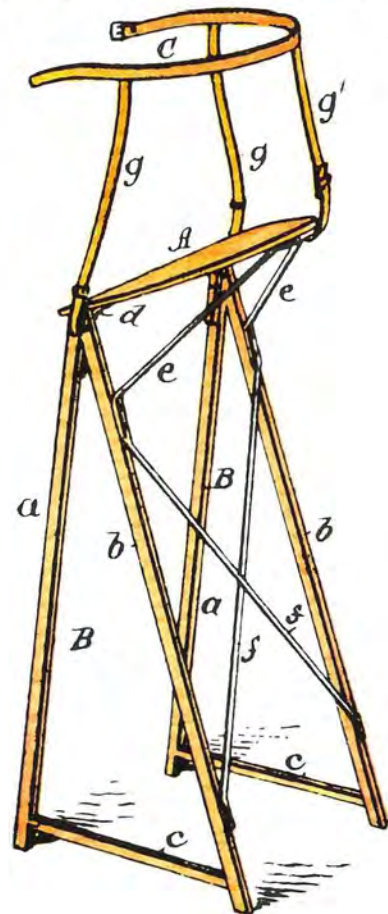
Patent Office Eccentrics

Fig. 1.

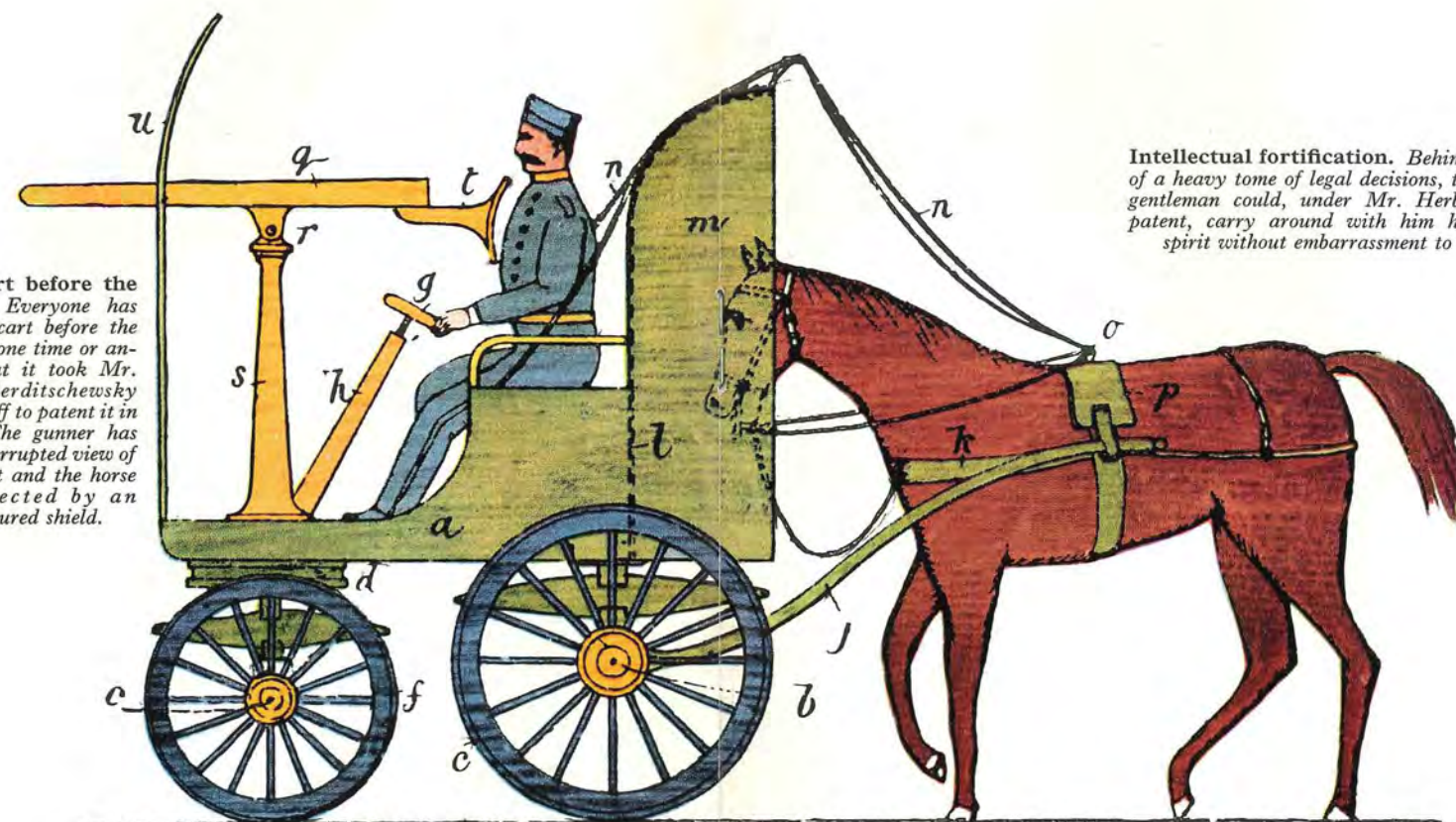


Deceptive ease. In Victorian days, ladies often had to stand for long hours at receptions. In 1896 Harriette Hodgson hit upon a device whereby a nice girl could stand and sit at once.

Fig. 2.



The cart before the horse. Everyone has put the cart before the horse at one time or another, but it took Mr. Serge Berditschewsky Apostoloff to patent it in 1904. The gunner has an uninterrupted view of his target and the horse is protected by an armoured shield.



Intellectual fortification. Behind the façade of a heavy tome of legal decisions, the Victorian gentleman could, under Mr. Herbert Jenner's patent, carry around with him his fortifying spirit without embarrassment to Mamma.

FIG. 1.

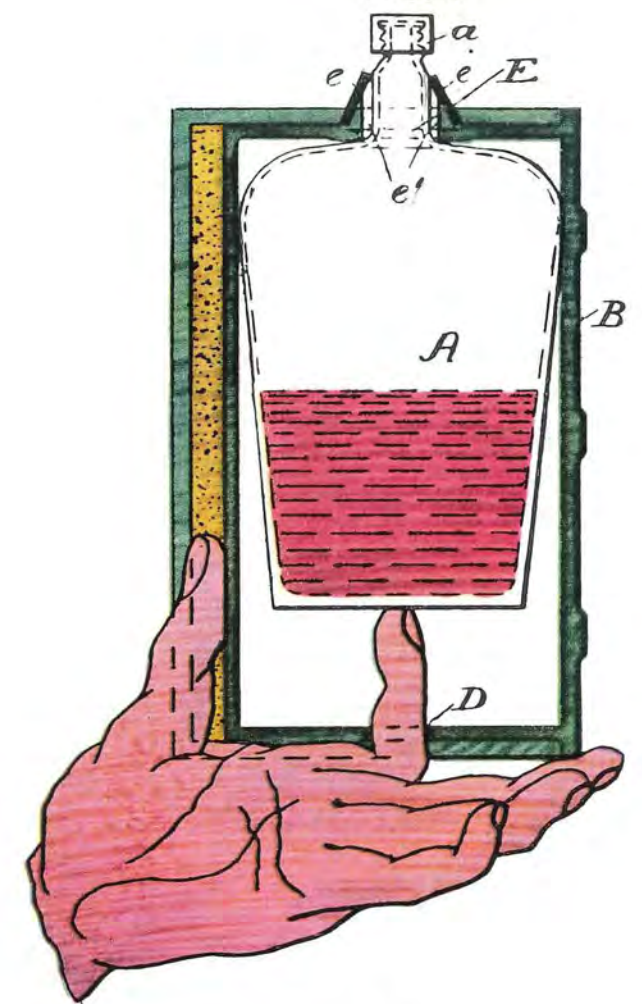


FIG. 2.

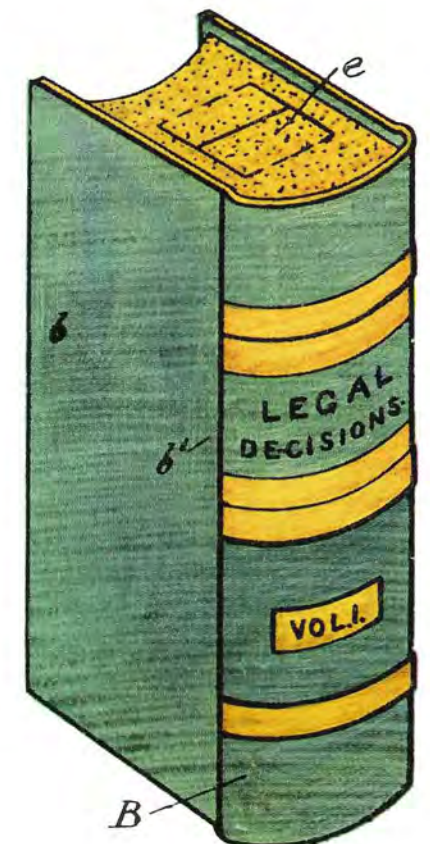
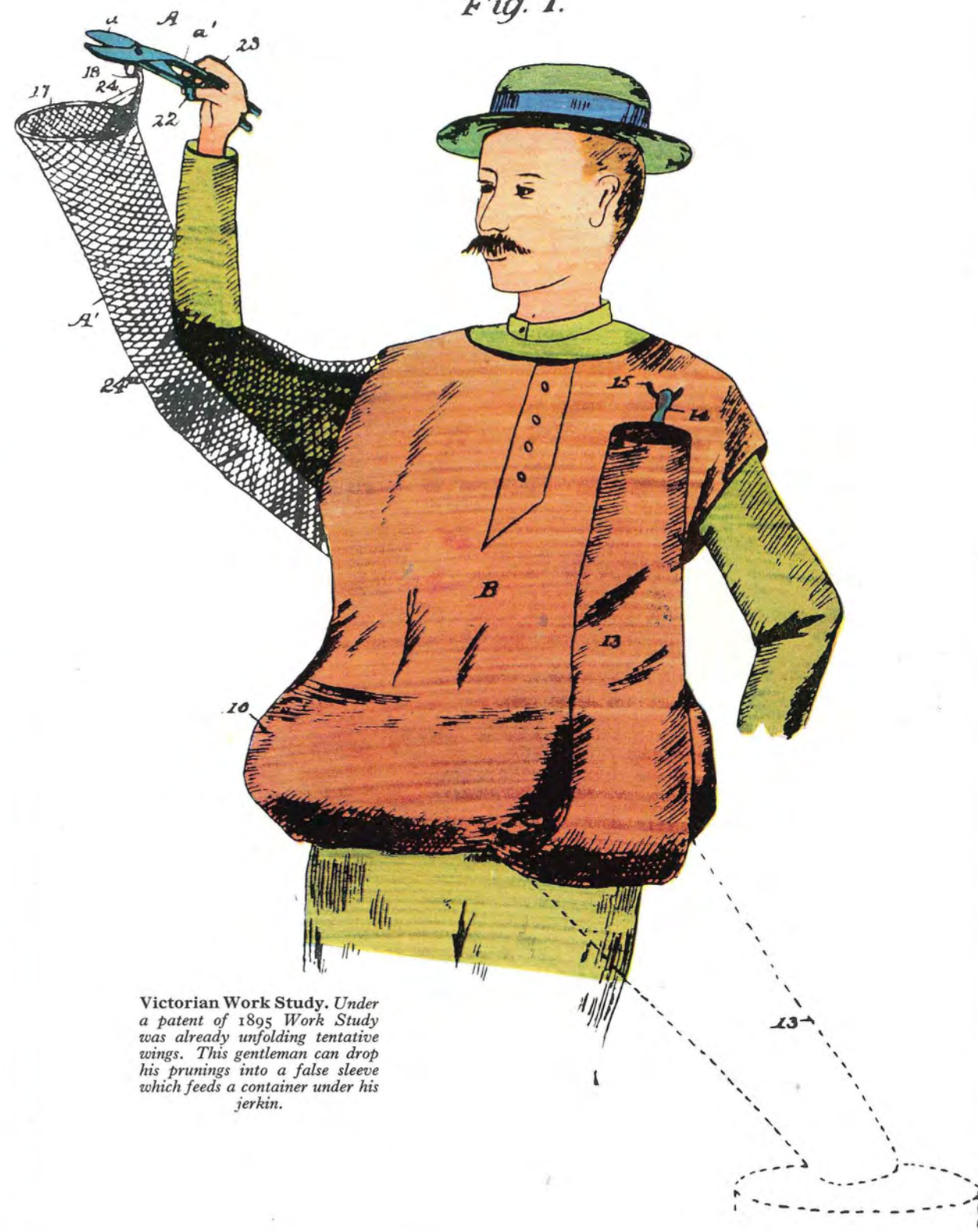


Fig. 1.



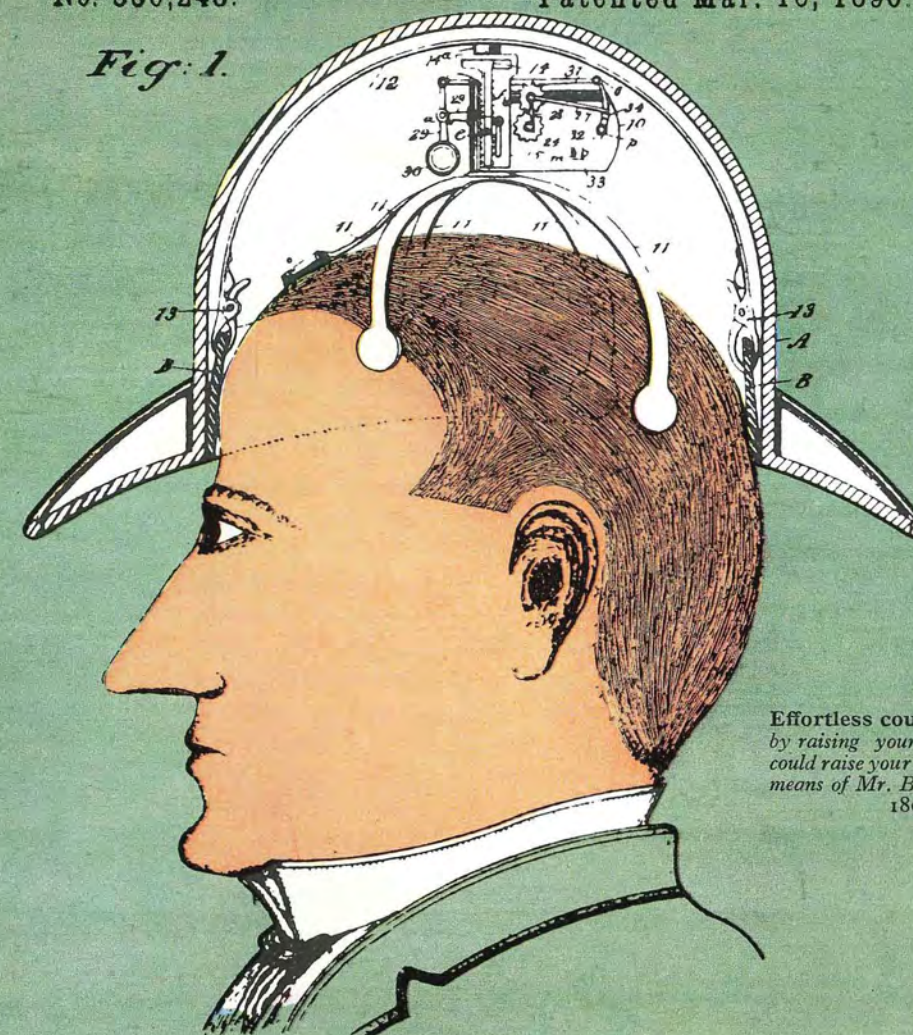
Victorian Work Study. Under a patent of 1895 Work Study was already unfolding tentative wings. This gentleman can drop his prunings into a false sleeve which feeds a container under his jerkin.

J. C. BOYLE.
SALUTING DEVICE.

No. 556,248.

Patented Mar. 10, 1896.

Fig. 1.



Effortless courtesy. Merely by raising your eyebrow you could raise your hat in salute by means of Mr. Boyle's patent of 1896.

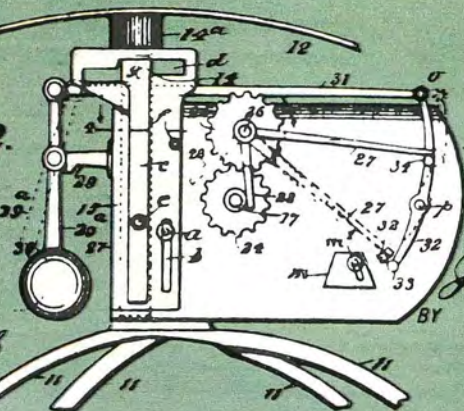
Fig. 2.

WITNESSES:

W. P. Patton
Richard H. Thompson

INVENTOR

J. C. Boyle
BY *Wm. H. H. H.*
ATTORNEYS.



THE GAS TURBINE ENGINE

By H. W. Shaw (Metals Division)

Although revolutionary in conception and performance, the gas turbine is nevertheless basically simple. The principles of its operation are here explained.

DESPITE their very obvious differences, the basic operations of the gas turbine engine and the conventional piston engine have much in common. In both the phases of operation are induction, compression, combustion and exhaust. But there is this fundamental difference. In the piston engine these operations are carried out in sequence within the working cylinder. In the gas turbine they are performed continuously in separate sections.

There are five sections to the gas turbine engine: (1) the air intake, equivalent to the induction function in the piston engine, (2) a compressor, equivalent to the compression function, (3) and (4) a combustion section and a turbine section, equivalent to the firing function, (5) an exhaust section or jet pipe.

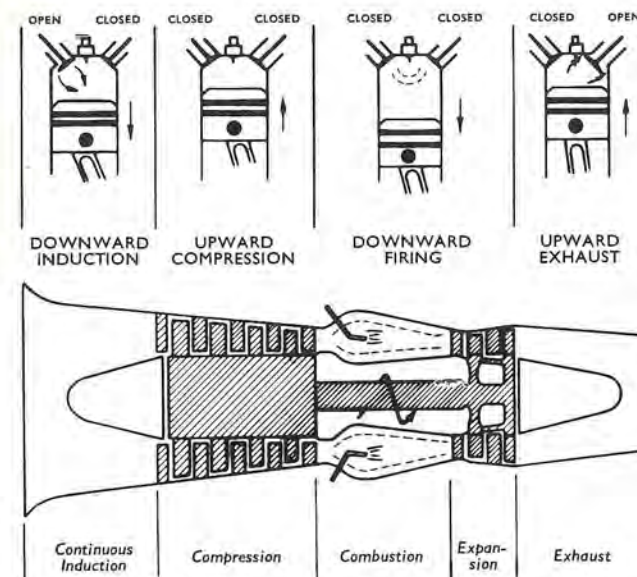
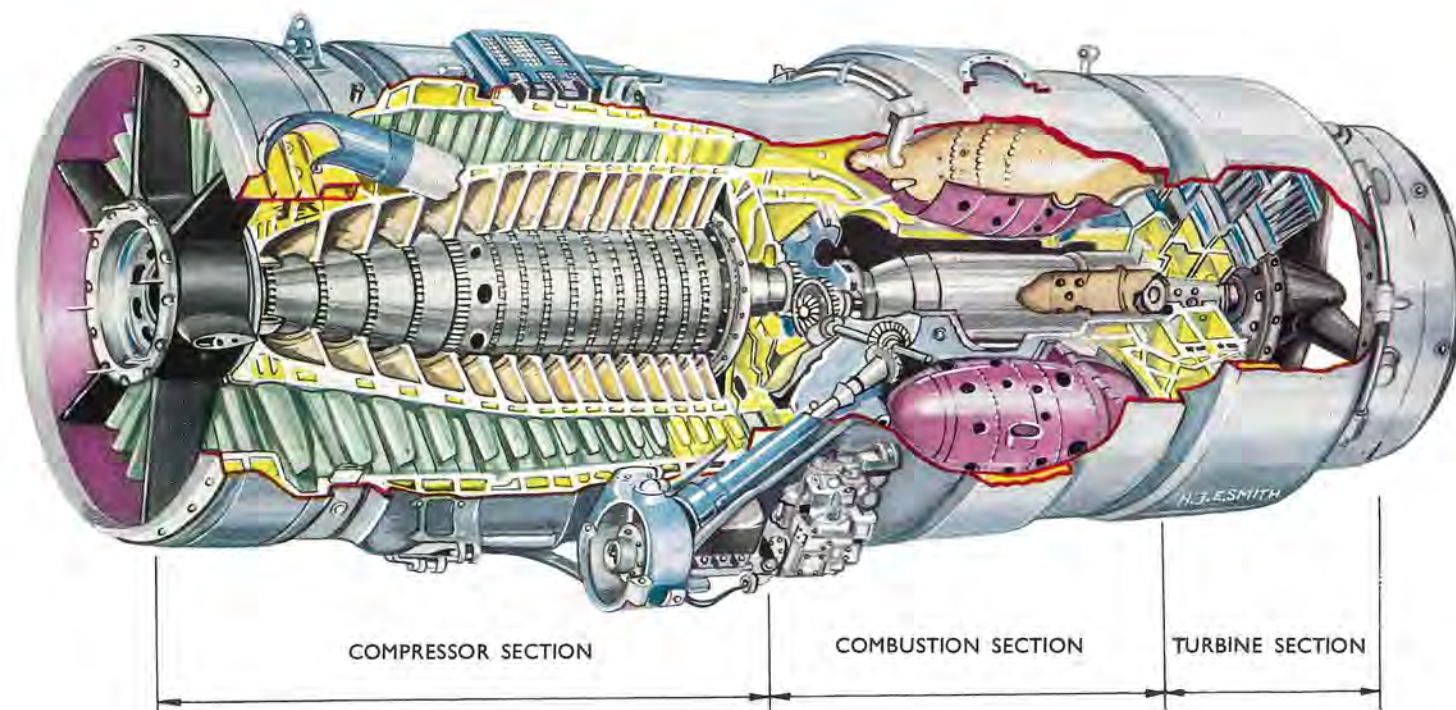
Let us look on each of these sections in turn. In the gas turbine the air intake is relatively large, due to the engine's inherently greater "breathing" capacity. At high speeds this intake has a "ram" effect which itself produces some compression, so that engines for sustained supersonic

flight are commonly designed with a smaller number of compressor stages, thus saving size and weight.

The air intake leads to the compressor proper, which is mechanically connected to and driven by the turbine section. In the earlier days of these engines the compressor was commonly of the centrifugal type, i.e. similar in principle to the impeller of the ordinary domestic vacuum cleaner, but in later years the search for higher efficiency and improved output has led to the multi-stage axial compressor with numerous blades arranged in fixed and moving rows, as shown in our illustration of the Rolls-Royce Avon engine. Nevertheless, the mechanically simple and reliable centrifugal compressor persists in the well-known Rolls-Royce Dart engine which powers the Viscount and other aircraft.

In the combustion system, which may consist of one large chamber enveloping the engine or of a series of separate chambers, a small proportion of the air from the compressor (the primary air) is led past the fuel atomisers

THE ROLLS-ROYCE AVON ENGINE



Gas-turbine and piston-engine cycles compared

or burners. These are supplied with fuel, usually a high grade of paraffin, from an engine-driven high-pressure pump, the quantity of fuel being adjusted to the airflow by an automatic control which sustains under varying conditions a flame lit by electric glow-plugs at start-up.

The combustion temperatures in the primary flame zone are necessarily high—too high for the life of the flame tube lining the chamber; and accordingly the remainder of the air delivered by the compressor is introduced through a series of holes spaced along the flame tube. This secondary air protects the metal by forming a thin layer and mixes progressively with hot primary gases so that by the end of the combustion chamber all the air is thoroughly mixed and the gases are brought down to a temperature compatible with the life of the working parts of the turbine section.

From the end of the combustion chamber the gas is directed to the turbine, which consists of one or more stages, each comprising a fixed and a moving row of blades. Here the energy of the very hot gases is converted into mechanical work by expansion down to lower temperatures and pressures. Part of the energy available for mechanical work is required internally to drive the compressor; the surplus is available for external purposes, e.g. to drive a conventional propeller.

The final section of the engine is the jet pipe, where the waste gases are expelled. Because of the large amount of air which flows through the gas turbine this pipe is far larger than for a piston engine of equivalent power; in the pure jet engine it is essential to propulsion.

The continuous operation of the gas turbine makes it possible to handle a larger flow of working air through a machine of given overall size, and accordingly relatively greater power can be obtained. At the same time the

absence of the reciprocating mechanical motion of pistons and connecting rods and of pulsations in the airflow makes an engine which is almost completely vibrationless and which produces a tremendous output of power in the smoothest possible form.

In one respect, however, the continuous cycle of operations within the gas turbine entails a disadvantage, in that it leads to high temperatures of the working parts. In the piston engine the intermittent operation provides regular cooling of the hot working parts each time a fresh unburnt charge is admitted to the cylinder, so that the effective combustion temperature may be as high as 2500° C. No such respite is given to the hot parts of the gas turbine.

Accordingly, in the gas turbine combustion temperature has to be kept within the limits of mechanical strength if an adequate working life is to be assured. This limitation has led to more complicated designs, involving heat exchangers and other elaborations. Only by these devices can a gas turbine show a fuel consumption (that is, in relation to a given power) even approaching that of simple piston engines.

Two main methods have been adopted for the propulsion of aircraft with gas turbines, these being the turbo-prop and turbo-jet systems respectively.

In the turbo-prop the surplus mechanical power from the turbine is taken to drive a conventional propeller, although due to the high rotational speed of the turbine it is necessary to introduce speed-reducing gearing, which brings the speed down from 12,000–15,000 r.p.m. to around 900–1000 r.p.m. at the propeller. The propeller is an attractive and relatively efficient method of converting mechanical power into thrust for propelling the aircraft at moderate speeds, say up to 400–450 m.p.h., but its efficiency falls off rather rapidly above this, and it tends to become too noisy. In consequence the turbo-jet becomes increasingly attractive as the flight speeds increase and offers in addition improved mechanical simplicity and smoothness in operation.

In the turbo-jet system of the Rolls-Royce Avon engine illustrated here, the turbine part is designed to extract only sufficient power to drive the compressor, so that very considerable energy remains in the exhaust gases, which are expelled rearwards at high speed from the jet pipe. Due to the momentum imparted to these gases in the engine, a corresponding forward thrust is developed in the aeroplane. The system is not particularly efficient in propelling the aeroplane at speeds where the propeller is at its best, but the higher the speed, the more effective it becomes. At the speed of sound and beyond, the jet system becomes more and more effective.

I.C.I. titanium and titanium alloys are used extensively in the modern aircraft gas turbine—in particular for the compressor drum and casing—because of their high strength for low weight and freedom from corrosion and fatigue.

OUR NEW CHAIRMAN

The announcement on 25th June that Mr. S. P. Chambers is to become Chairman of I.C.I. as from 1st March 1960 attracted considerable comment in the press. Perhaps nowhere was the new situation better or more succinctly summed up than in the "Financial Times," whose article entitled "A New Chairman for I.C.I." is reprinted by kind permission of the editor.

THE Chairman of Imperial Chemical Industries is ex officio a leading public figure. This is not just a matter of size—there are, in fact, one or two British companies that in some ways are larger even than the £618m. I.C.I. group. But in spite of this, it is I.C.I. that is most frequently quoted—by friends and enemies alike—as the symbol of modern, expansionist, British big business.

Yet neither Sir Alexander Fleck, the present Chairman, whose retirement has just been announced, nor Stanley Paul Chambers, who will succeed as Chairman next year, remotely resembles the conventional industrial tycoon. Both would have had distinguished careers without ever entering industry: Sir Alexander Fleck in the research laboratories, where in his youth he had shown such brilliance, and Mr. Chambers in Whitehall, where indeed for twenty years he had been a civil servant, five of them as a Commissioner of the Board of Inland Revenue. And both of them are distinguished by an air of quiet confidence, rather than the aggressiveness that is frequently supposed to be the distinguishing characteristic of leaders of great business empires.

But there are also great differences between them. Born in Glasgow in 1889, Fleck, whose father was a coal merchant, left school at the age of 14. Deciding even then that his future lay with science, he entered Glasgow University in the only way open to him—as a lab boy under Prof. F. Soddy. Three years later he succeeded in becoming a full-time student; by the age of 22 he had gained his chemistry degree and was taken on to the teaching staff. By 1913 he had his own research laboratory

and was awarded a doctorate for a thesis entitled "Some Chapters on the Chemistry of the Radio Elements." On the basis of this early work Fleck was elected, in 1955, a Fellow of the Royal Society.

The first world war drew him into industry, joining the Castner-Kellner Alkali Co., which in 1920 became absorbed into Brunner, Mond & Co., which in turn, in 1926, became a constituent of the newly born Imperial Chemical Industries. Five years later he was managing director of I.C.I.'s General Chemicals Division, in 1944 a member of the main Board of the Company, in 1951 deputy chairman, and two years later Chairman.

But while Fleck, with his soft Scottish accents, maintained the I.C.I. tradition of having a Glaswegian at its head—he was, in fact, the third in succession—his successor is an out-and-out Londoner. Born in London in 1904 (although it is hard to believe that anyone so youthful in appearance is now 55), the son of a small City wine merchant, Chambers was educated first at the City of London School and then at the London School of Economics. After taking his degree in economics he joined, at the age of 23, the Inland Revenue Department.

His progress was rapid. Taxation adviser to the Government of India before the war, he became a member of the Board of Inland Revenue in 1942. The same year he was created a C.B. In 1944 he visited Washington to negotiate the double taxation agreement that was subsequently signed between Britain and the U.S., and at the end of the war he was sent to Germany to take up the post of Chief of the Finance Division of the British section of the Allied Control Commission. During the war, too, he was said

to have been responsible for the idea of P.A.Y.E. In 1947 he accepted an invitation to join the Board of I.C.I., becoming Finance Director in the following year and a deputy chairman in 1952.

Both Fleck and Chambers have been active on Government committees. Sir Alexander Fleck, indeed, received his K.B.E. in 1955 for services to the Ministry of Fuel and Power, following the publication of the report of the Advisory Committee (of which Fleck was chairman) invited by the N.C.B. to review the organisation of the coal industry. His lack of rigidity is shown by the fact that one of the recommendations of the Fleck Report was that the coal industry should be centralised—after Fleck had been instrumental in decentralising I.C.I. Chambers, too, in addition to his work on Government committees, has been prominent as a writer and speaker on matters of financial and taxation policy.

So, next February, the chemist who became an industrialist will be succeeded by the financial expert. Some may see in this a significant change, the end of an era and the beginning of another for I.C.I. But what is far more likely is that there will be continuity: the steady record of enlightened industrial growth associated with the name of Sir Alexander Fleck will be maintained, quietly and efficiently, in the equally capable hands of Stanley Paul Chambers.



Photo: Douglas Glass

MONOPOLIES AND RESTRICTIVE PRACTICES (continued from page 243).

In coming to conclusions, the Commission may also make recommendations for remedying any matter which it has chosen to criticise. If the Board of Trade accepts these, it can insist on remedial action, but those affected have usually agreed to bring their practices into line with the recommendations.

To what extent do these Enquiries, or the prospect of them, have a salutary effect on trade and industry? This is a debatable question and one too involved to ventilate in a short article. Many people would say that some sort of investigation into monopolies is desirable, but an Enquiry of this nature is so lengthy as to constitute an enormous burden, and it involves a procedure which many consider to be open to substantial objection. A restrictive practices case, on the other hand, is dealt with comparatively swiftly and in accordance with strict and well-understood legal procedures.

One likely question remains. How far is I.C.I. involved

in these kinds of Enquiries? I.C.I. has registered a handful of cases under the Restrictive Practices Act of 1956. Before doing so, of course, the Company made a critical examination of each case to satisfy itself that each was soundly based.

On the monopolies side, the Company has been concerned for some years, along with other manufacturers of chemical fertilizers, with an Enquiry into the supply of these products, and the Commission has now completed its investigations. So far as one class of fertilizers—nitrogenous fertilizers—is concerned, "monopoly conditions" certainly apply to the Company. Indeed, I.C.I. is proud to have been the pioneer of the synthetic nitrogen industry in this country. The Enquiry just concluded has involved the Company—and particularly the Billingham Division, which makes its fertilizers—in a vast amount of work. It is expected that the Commission's Report will be published this autumn.

MONOPOLIES AND RESTRICTIVE PRACTICES

By D. G. G. Haffenden (Assistant Secretary, I.C.I.)

A report by the Monopolies Commission after an enquiry into the supply of chemical fertilizers—in which I.C.I. is concerned as a supplier of nitrogenous fertilizers under "monopoly conditions"—is expected to be published soon. The background of the Commission's work is here explained.

FROM time to time the newspapers announce publication of another Report of the Monopolies Commission, or of a judgment delivered by the Restrictive Practices Court. If hard things are said about the trade or industry investigated, the event can make headline news. More often than not, however, interest is short-lived, and the man in the street is left wondering what it has all been about.

What, in fact, is a monopoly, and what is meant by a restrictive practice? These are questions well worth looking into.

In the first place, the term "conditions of monopoly," as used in the Act of 1948, which set up the Monopolies Commission, does not mean that a single firm is the sole seller of a commodity—in other words, that it has the market to itself. That is what we mean in ordinary talk when we say that So-and-So has a monopoly. A "monopoly condition" exists, says the Act, if a single firm controls *one-third or more* of the supply of a commodity—a very different thing from being a sole seller.

Secondly the term "restrictive practices" as used by the Restrictive Practices Court also has a special meaning. The Court has no interest whatever in relations between employers and employees or between trade unions, although, as we all know, restrictive practices may well exist in those quarters. It is concerned solely with restrictive practices in connection with *the supply of goods*.

Parliament has defined a restrictive practice as any arrangement made by two or more firms to fix common

prices for a particular commodity, or to limit the quantities they will manufacture, or to limit the channels through which they will sell—that is to say, any arrangement which tends to restrict competition in the commodity. Under the Restrictive Trade Practices Act of 1956, every practice of this type has to be notified to a Registrar. In due course this official brings each restrictive agreement before the Court, and in pursuance of its duties the Court has in the last

year investigated the trading activities of several trade associations, including yarn spinners and blanket manufacturers. The Court then has to decide whether the restrictions accepted by those who are parties to it are contrary to the public interest.

Onus of Proof

But the people concerned are not, as might be expected, regarded as innocent until proved otherwise. The onus is entirely upon them to show, on certain special grounds, that the restrictions are not contrary to the public interest. This is a heavy burden, because the grounds are few, difficult to prove, and have so far been interpreted very strictly by the Court. It will come as no surprise, therefore, to learn that of those restrictive practices which have been registered, four out of ten are abandoned before proceedings are begun, the parties presumably realising that their case had little chance of succeeding. In fact only one case, that of the Water Tube Boilermakers' Association, has been proved to the satisfaction of the Court.

Both restrictive practices and monopolies used to be the concern of one body, formed in 1948 under the title of the Monopolies and Restrictive Practices Commission. This arrangement continued until 1956, when an Act was passed transferring questions of restrictive practices to a newly created Restrictive Practices Court, leaving the question of enquiring into single-firm monopolies to the Monopolies Commission.

Monopolies Commission Criteria

The first action of the Monopolies Commission, when the Board of Trade refers the situation in some trade or industry to it, is to enquire into all the facts and decide whether "monopoly conditions," as defined by the Act, do in fact exist. Its second and more important duty is to decide whether the things being done by the monopoly (e.g. its behaviour in respect to prices, profits, availability of the goods and conditions of sale) operate, or may be expected to operate, against the public interest. The Monopolies Act of 1948 does not define the public interest, but it sets out criteria which the Commission have to take into account. These can be summarised in the form of questions:

1. Are sufficient goods being produced and distributed efficiently and at such prices as will best meet the requirements of the market?
2. Is the industry organised in such a way as to increase efficiency and encourage new enterprise?
3. Is the fullest use being made of men, materials and manufacturing capacity?
4. Are technical improvements being developed, existing markets expanded and new ones opened up?

One may be excused for wondering whether even the best-regulated concern could look back on its history without discovering some time or some situation in which, for a spell at least, it did not fall short in one or other of these respects!

The Commission Membership

Be that as it may, these are the main criteria for the Commission. And who are its members? Nine in all, they consist of a full-time chairman, who is a lawyer, and eight part time members drawn from varied walks of life—a professor of political economy, a former Treasury solicitor, a trade union leader, an accountant, and four representatives from industry and business. The Commission is assisted by a staff skilled in collecting and analysing facts. It is interesting to note that the Commission has seldom taken less than eighteen months to complete one of its Enquiries; in fact, three years is not unusual. This shows what a vast mass of material has to be gathered and sifted, and that the task is undertaken with thoroughness.

Exhaustive Enquiries

Once the Board of Trade has told the Commission to enquire into the supply of some sort of goods, questionnaires are sent to those concerned—producers, suppliers and consumers. The producers and suppliers—those against whom the Enquiry may be said to be directed—are required to provide full and detailed written information, going back perhaps thirty years or more, about such matters as the history of their business, production capacity and methods, raw materials used, costs, prices and profits, research and development, agreements and patents, and future plans. They also have to make available to the Commission minutes of meetings, accounts and other documents. Consumers, on the other hand, are asked to say what their experience has been in dealing with the suppliers and, if they have a complaint, to give details.

When the factual information has been gathered and examined by the Commission, it holds what is called a Clarification Hearing with the main suppliers under investigation, taking each in turn. That is to say, it asks representatives of each company concerned to appear before it to clear up and elucidate any matters that may

still be in doubt. In practice, this hearing also serves another purpose, allowing the Commission, as it does, to see and appraise the men who manage the affairs of the company concerned, as well as to question them on their policies and actions.

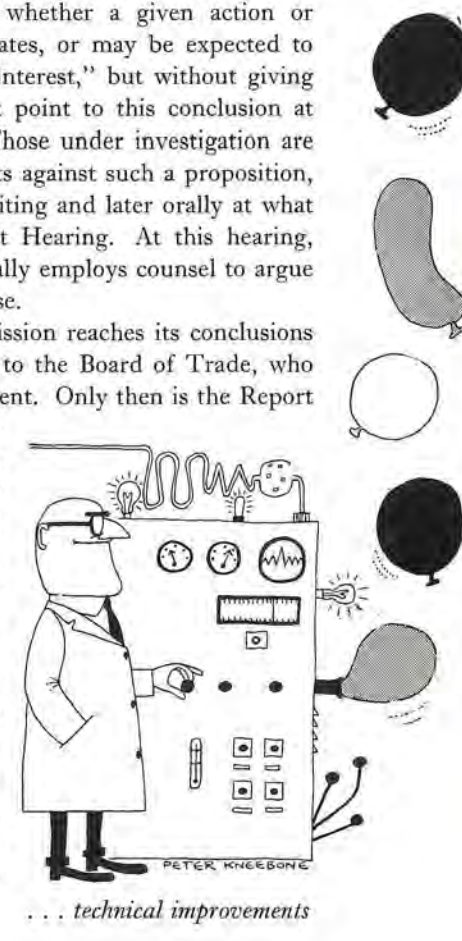
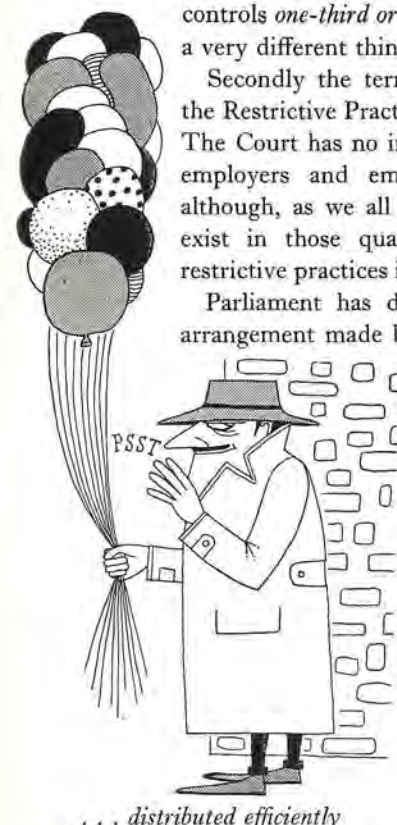
By the time this stage is reached, the Commission is able to decide the first of the problems set it—whether in fact a "monopoly condition" exists. If it finds that it does, it then begins to assess the matters which require study in order to decide whether the monopoly operates against the public interest. It is important to note that, unlike the position with restrictive practices, there is no presumption that a monopoly is bad, or even that it is liable to abuse. Each case is judged on its merits, and it is probable that many monopolies would emerge from investigation with flags still flying.

Something of an Inquisition

Even so, a Monopolies Commission Enquiry, as its name implies, is something of an inquisition. There is no prosecution, no charges are framed, and those under investigation know none of the facts gathered from other quarters, and only a summary of the complaints. They are never certain, therefore, what case they have to meet. The Commission frames questions—often hypothetical ones—posing the problem whether a given action or state of affairs either "operates, or may be expected to operate, against the public interest," but without giving the arguments which might point to this conclusion at present or in the future. Those under investigation are invited to advance arguments against such a proposition, and this they do both in writing and later orally at what is called the Public Interest Hearing. At this hearing, the monopoly company usually employs counsel to argue and generally conduct its case.

In due course the Commission reaches its conclusions and sends its entire Report to the Board of Trade, who finally presents it to Parliament. Only then is the Report made public, and those who have undergone the long and strenuous experience of being investigated at last learn what the Commission thought of the way they conduct their affairs. The Commission's procedure makes it unlikely that its Report could give praise, or even indicate that certain things were undoubtedly done in the public interest. A Monopolies Commission Enquiry is essentially designed to expose faults.

(Continued on page 241)



NEWS IN PICTURES

Home and Overseas



At Lisbon. During her tour of the British Trade Fair held in Portugal recently, Princess Margaret inspected the I.C.I. stand. She is seen here with Sir Walter Worboys, I.C.I. Main Board Director, Mr. W. C. Collett, Manager of I.C.I. (Export), Lisbon branch, and Lady Worboys. Below: A general view of the stand

As tough as 'Melinex.' This Messerschmidt car weighing 9 cwt. and suspended by eight 1 ft. wide strips of 1/1000 in. thick film, demonstrated the toughness of 'Melinex' polyester film at a press reception held in Glasgow in July. Up on the platform with the car was Miss Margaret Lauder, a secretary in the Plastics Department of Glasgow Regional Office, making a total weight of over half a ton. At the reception Plastics Division announced their plans to start large-scale production of 'Melinex' at the old 'Ardil' factory at Dumfries. (See page 223.)





Treble chance. When Miss Louise Lee (Wilton Catering Dept.) was preparing lunch recently in the kitchens of Grange Restaurant she broke an egg, and a lucky customer enjoyed a three-yolk egg



Bumper crop. When Wilton Castle gardens were open to the public in aid of the Red Cross, this magnificent display of tomatoes was on view. Mr. Phil Bloomfield, Head Gardener, expects each plant which is fed on Plant Protection Ltd. products to yield about 10 lb.



Expansion in Rhodesia. A.E. & C.I.'s subsidiary company, A.E. & C.I. (Rhodesia) Ltd., have recently completed large fertiliser plant extensions at Rodia Factory. They represent a capital investment of £3 million, and the initial annual output of triple and single superphosphate should be sufficient to meet the fertiliser requirements of the Central African Federation for some years to come. Left: Mr. Harry Oppenheimer (chairman of A.E. & C.I.), who officially opened the new extensions, is seen greeting Sir Roy Welensky (right), Prime Minister of the Federation. Also in the picture (left) is Mr. George Mason, Head of African Department at Millbank



Birthday Honours. Three members of I.C.I. were mentioned in this year's Birthday Honours List. Above, left: Mr. Richard Harman (Head Office Safety Dept.), who received the M.B.E. He has been the Company's Chief Civil Defence Training Officer since 1951 and was chairman of the organising committee for the highly successful Civil Defence exercise "Lion" at Witton. Above, right: Mr. Charles Mackenzie (Metals Division), who was awarded the B.E.M. He has been with I.C.I. for 28 years and is now Chief First Aid Instructor at Wauarlwydd Works, where he has recruited and trained his teams. Right: Miss Violet Townend, who in her 30 years' service with the Company has been secretary in turn to all three of the Company's Chief Labour Officers. She received the M.B.E.



Return visit. Central Work Study Department recently welcomed thirteen members of a West Indies and British Guiana Trade Delegation to spend a day at Millbank. The mission included the Federal Minister of Trade and Industry, the Hon. C. G. D. La Corbiniere (2nd right), seen here with Mr. W. S. Vorley (American Dept.), Mr. C. J. Casserley (Industrial Development Corporation of Jamaica) and Mr. R. M. Currie (Head of Work Study Dept.). This follows the visit to the West Indies last summer of a Head Office Work Study team



'Terylene' for champions. Our picture shows Miss Maria Bueno winning the Ladies' Singles Championship at Wimbledon this year. For her attractive tennis dress she favoured 'Terylene' cotton material



"Send me fifty bags of 'Nitro-Chalk'—same as I always has," says Farmer Bernard Miles in one of the 30-second commercials produced by the I.C.I. Film Unit for Central Agricultural Control. This and other commercials featuring Bernard Miles have been broadcast on A.B.C.'s farming programme, "The Other Man's Farm." (See page 224.)



The Duke of Gloucester visited the I.C.I. Game Research exhibit during his tour of the Game Fair held at Hackwood Park, Basingstoke. He is photographed looking at mallard on the artificial pond with Mr. Douglas Middleton (Manager of Metals Division's Game Research Station, Fordingbridge) and (right) Capt. R. Petre (chairman of the organising committee). (See page 225.)





The 20,000th I.C.I. metal degreasing plant leaving Runcorn on its way to a customer in Manchester. Trichloroethylene degreasing plants are used in every branch of industry, and plant sizes range from tiny bench models for degreasing tin-tacks and sewing needles to giants capable of degreasing major components for nuclear installations and aircraft. Left: One of the original 1927 plants, which is still preserved as a museum piece at Runcorn



Wheelwright's success. For two years running Ben Allen, a General Chemicals Division apprentice, has been awarded the J. O. H. Norris medal for the best design of a lorry body submitted by 3rd, 4th and 5th year students of the City and Guilds Motor Body Work Course at the Liverpool College of Building. This year he has also romped home with first prize in a competition organised by the Institution of British Carriage and Automobile Manufacturers

The "leather" look. Top fashion leather coats and jackets tend to have top price tags attached. We show below a budget-priced alternative made in easy-to-clean I.C.I. 'Vynide.' Colours include white, oyster, beige, nasturtium, midnight blue and black. Made by Morcosia, they will sell at about £8 5s. full length and £7 7s. three-quarter length



Head Office veterans. The Chairman, Sir Alexander Fleck, photographed with the eight Head Office staff who received awards for 40 years' service at a recent ceremony at Millbank. The group includes the Chairman's own secretary, Miss W. M. Springford (extreme right). Altogether 93 members of staff received awards, including four Main Board directors, Dr. R. Holroyd, Mr. P. C. Allen, Dr. J. Ferguson and Dr. J. Taylor



Main Board Changes



Mr. R. A. Banks
Ammonia and Agriculture
Director (Group C)



Dr. R. Beeching
Development Director



Mr. E. A. Bingen
A Deputy Chairman



Mr. S. P. Chambers
Chairman Designate



Dr. J. S. Gourlay
An Overseas Director



Mr. G. K. Hampshire
Paints and Plastics Director
(Group E)



Mr. C. Paine
Fibres and Heavy Organic
Chemicals Director
(Group F)



Mr. C. R. Prichard
Heavy Chemicals Director
(Group A)



Mr. W. D. Scott
(Commercial Director)



Mr. R. C. Todhunter
An Overseas Director



Mr. L. H. Williams
A Deputy Chairman
(from 1st March 1960)



Mr. C. M. Wright
Personnel Director

The following directors retain their original responsibilities: Dr. R. Beeching (Technical Director), Dr. J. Ferguson (Research Director), Dr. R. Holroyd (a Deputy Chairman), Mr. P. T. Menzies (Finance Director), Mr. J. L. S. Steel (Economic Planning Director) and Dr. J. Taylor (Metals and Nobel Director, Group D). With the exception of Mr. S. P. Chambers and Mr. L. H. Williams, whose appointments take effect from 1st March 1960, the above Main Board changes dated from 23rd July. Sir Walter Worboys has announced his intention of retiring from the Board on 31st October

Ah Fong

By John Toker

WHEN we first saw Ah Fong he was about six years old. A plump little boy in a tight cotton jacket and crumpled trousers.

At seven o'clock every morning he came into the barracks with a bundle of newspapers and made a tour of the messes selling them. Even at six he had the precocious independence of a child who has always fended for himself.

His brown eyes sparkled with humour—and missed nothing. Any money we gave him he tested cautiously, examining it in the harsh glare of the sun before accepting. And he was always willing to buy back any of the day's newspapers we might have read before he left—at half price!

Ginger felt sorry for the child. In a comic conversation, where an improvised sign language did the service of a common tongue, he found out Ah Fong's parents were dead. He lived with an aunt near the Central Market suburb.

That was enough for Ginger.

"You come here every morning eight o'clock, I give you breakfast," he said, making cutting movements with his knife and fork on the scrubbed deal of the table top. "Chow-chow. Savvy?"

Ginger spoke with a clipped, sing-song accent that he believed translated his English words into perfect Cantonese.

But the boy grinned and nodded. He savvied.

We all helped in smuggling food out of the dining room at meal times. Apples, sausages, rock cakes, sweet potatoes, and the nauseous tinned herrings-in-tomato that Ah Fong considered the caviare of the Royal Navy.

After he had sold his newspapers every morning Ah Fong returned to the mess. He ran errands. Brewed tea. And argued with the laundry women.

The laundry in the barracks was managed by two gold-toothed beauties who saw no difference in sizes of clothing.

A man sends in a pair of shorts: he receives a pair of shorts. What did it matter if he was built like a rhinoceros and the shorts returned to him would be tight on a gnat?

The women met any complaints with golden smiles and shoulder shrugs.

Ah Fong changed all this. The first time he collected the laundry he opened the parcel at once and

checked each garment. Then he frowned. And turning to the women, with his right hand raised towards the sky, he gave them what sounded like a Chinese version of the Penitential Psalms.

The women listened open mouthed, their teeth gleaming like sunlight in the cellars of Fort Knox. Before Ah Fong finished they had hastily found our correct clothes. And they watched him walk away in silence.

The boy was with us a week before someone pointed out that he was not very clean. His ears, with a little cultivation, could have grown rice. And his tunic was the neutral grey-brown of the seldom washed.

"Come on, Ah Fong," Ginger ordered. The boy followed him down to the bathroom. We rushed out to the veranda and leaned over the rail to watch. There came the hiss of a shower; the scrape of conscientious scrubbing; and a child's indignant wail.

Ginger padded back up the stairs with a towel round his waist.

"Hey, fellers," he said, "anyone got any old gear they don't want? I thought that kid was fat. When I took his clothes off he had about ten newspapers wrapped round him!"

"I've got an old shirt he can have," Taffy said, leaning over his bed and groping in a locker. "Oh—and a pair of shorts. But they'll smother him."

"They will do," said Ginger. "I'll tuck them up for now. Nothing could be worse than what he is wearing. Phew!"

When Ah Fong returned from his toilet we did not recognise him. Clad in the discarded clothing, without the padding of the newspapers, he looked like a skinned rabbit.

"God!" Jake gasped. "He looked better in his own clothes. Fatter, anyway."

Sadly Ah Fong gazed at our smiling faces.

"No scrubbee," he pleaded. "No scrubbee—me clean."

Ginger arranged with a Chinese tailor to make a suit to fit Ah Fong from Taffy's old clothes. On an empty cigarette tin he pasted a label on which he printed: AH FONG FUND.

"This is for the kid," he said. "Just put whatever you can in it and we will rig him out properly."

Within a few weeks Ah Fong was transformed. A sleek, spotless Chinese boy with his black hair neatly

cut and combed, dressed in tailored shirt and shorts with regulation creases.

This pleasing sight was ruined for Ginger by the scruffy sandals the boy wore.

"Those things are a bloody disgrace!" he sighed disgustedly one day as Ah Fong was leaving the mess to sleep at his aunt's hovel. "We will have to buy him shoes."

There was enough money in the Ah Fong Fund for shoes and knee-length stockings. The trouble began putting them on.

"No, no, no likee," Ah Fong protested, as his stubby stockinged toes were slid into the shining tan leather. "Ai-ee-yah! Me sandals better—shoes, no likee."

But Ginger was deaf. The shoes were laced and Ah Fong clomped carefully across the bare wooden floor like a fly on sticky paper.

He tried to walk the only way he had ever walked—with short, sliding steps. But this method failed with shoes. The unyielding toes caught in the gaps between the planks and over Ah Fong went.

Tears. Protestations. Defiant mutterings in rapid Chinese had no effect on Ginger.

"You keep 'em on," he said. "Good for the feet like me—and Taffy, and Jake."

He pointed. And we demonstrated the comfort of shoes, parading up and down before the boy like outsize mannequins.

Ah Fong gradually became adapted to a shoed life. But we always had a suspicion that in his own home he took the shoes off, hurled them away, and put his sandals on again.

When Ginger knew he was leaving Hong Kong for demobilisation his only concern was for Ah Fong. We had to dissuade him from shanghai-ing the child aboard ship in a kit-bag.

"Look," he said nervously one day, "that kid needs attention. How about you and Taffy taking him over? He's no trouble now. And he can understand every word you say."

"I don't mind. Let's ask Taffy."

When Taffy came in he agreed. "Yes. That's all right by me."

By now Ah Fong's presence in the barracks had been made official. By permission of the Commander Barracks he had been issued with a stamped pass that contained his photograph. He could come and go as he pleased. The only restriction was that he returned to his own home at night.

After a few more months, however, he stopped coming every day. He no longer sold newspapers.

Perhaps he felt with Ginger gone there was no one



"No scrubbee," he pleaded. "No scrubbee, me clean."

who really cared about him. Perhaps he was now old enough to find a more interesting life in the bustle of the city.

Soon he stopped coming at all.

We did not try to find him. Our service abroad was completed and the replacements had showed no interest in Ah Fong.

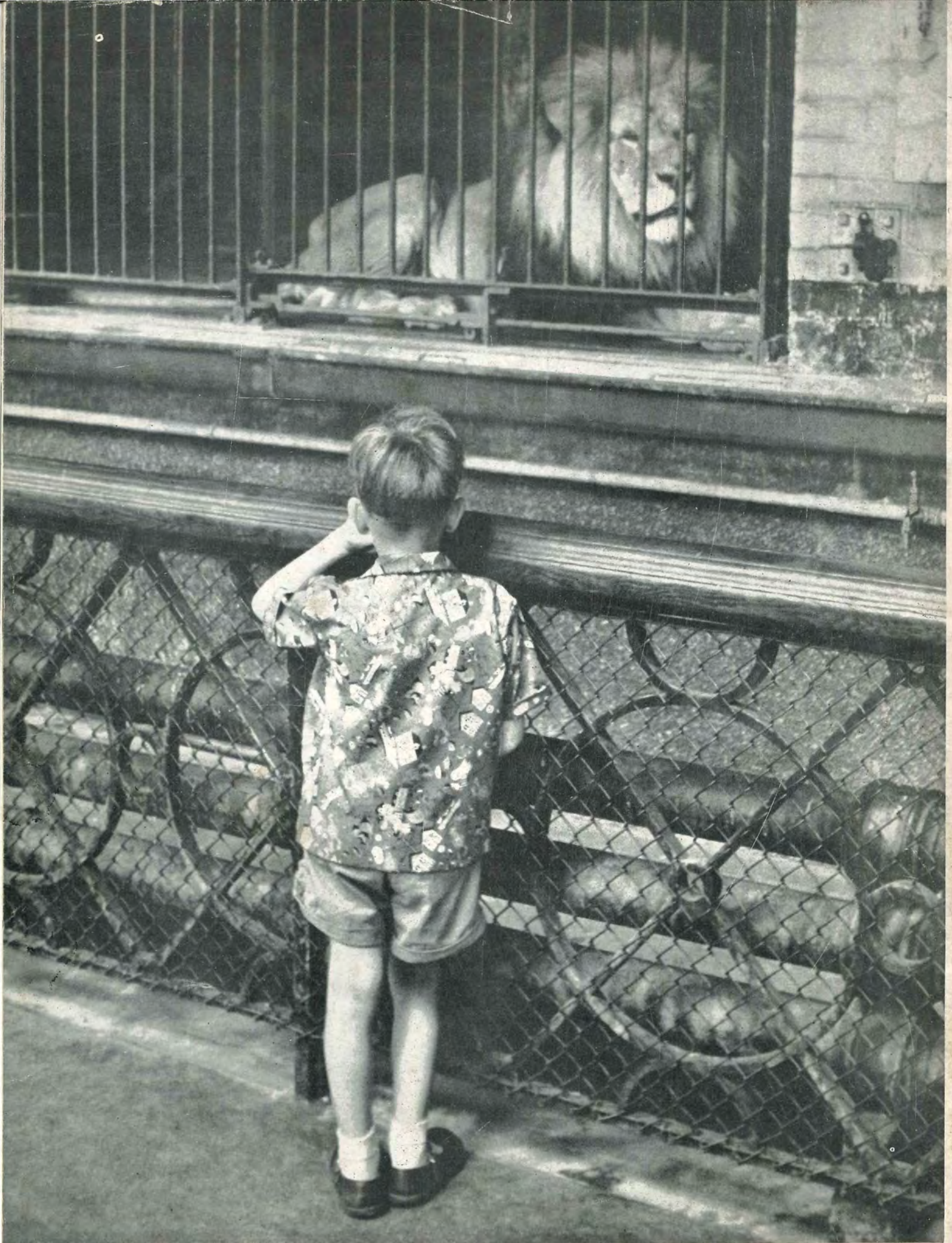
One night about eleven o'clock we were returning to the barracks through the dimly lit Wan Chai district.

Several ragged boys were playing on the tram lines, screaming and shouting. Seeing us they mimicked our walk and called out: "Johnny, Johnny. Cum shaw, Johnny . . ."

One of them shouted a sentence in English. The others quietened while he spoke. For a few moments he recited fluently a list of lower-deck swear words that would have done credit to a bilious chief stoker.

We recognised the voice. It was Ah Fong.

"Well—" sighed Taffy, with the resignation of the regular with nineteen years yet to do in the Royal Navy, "—he did learn *something* from us, anyway."



"The King and I"

Photo by David Pratt (Millbank)